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ABSTRACT

A study was undertaken, in compliance with the Women's Educational Equity Act of 1974 (part of the Education Amendments in 1974) to identify the extent and kinds of sex discrimination in access to postsecondary education. The analysis of the data includes participation rates of women in various forms of postsecondary education, the impact of personal and background variables on access to education, institutional practices that may have discriminatory effects (especially in financial aid), and the special problems of adult women returning to postsecondary education. Recommendations are made for programmatic, research, and legislative efforts to ensure more equal educational access. The data sources used were: (1) research and theoretical literature; (2) statistical reports on high school and college youth; and (3) special exploratory studies. Volume 1 contains the narrated report of the study; Volume 2 contains annotations. (MSE)

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SEX DISCRIMINATION IN EDUCATION: ACCESS TO POSTSECONDARY EDUCATION (Volume I)

by

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The Authors
February, 1976

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CHAPTER 1

INTRODUCTION

The study reported here is in compliance with the Women's Educational Equity Act of 1974, which constitutes section 408 of the Education Amendments of 1974 (appendix A). It is the purpose of this section to provide for educational equity for women in the United States. Section 408 (f) (4) reads:

> From the sums available for the purposes of this section, the Commissioner is authorized and directed to conduct a national comprehensive review of sex discrimination in education, to be submitted to the Council not later than a year after the date of enactment of this section. The Council shall review the report of the Commissioner and shall make such recommendations, including recommendations for additional legislation, as it deems advisable.

This study was undertaken to identify the extent and kinds of sex discrimination in access to postsecondary education. Webster's New Collegiate Dictionary defines access as "permission, liberty, or ability to enter (or) approach." The term also means "admittance" or "a way or means of approach." Access to education has been used interchangeably with the term educational opportunity. Implicit in both concepts is the term equal: equal access, equal opportunity.

A report on equal opportunity for blacks in higher education defines Equal opportunity as

> a societal goal that aims to provide the opportunity for all students to fulfill their promise and ambitions, and

> to rise to whatever heights their ability, interest, and determination can reach through education. To achieve this goal, opportunity cannot be limited by the color of one's skin or sex, the nature of one's religious beliefs, or by family income and private circumstances. Equal educational opportunity in college is, therefore, the opportunity to enter not just some colleges, but all colleges; not just some fields, but all fields, and to earn not just certain degrees, but all degrees, unencumbered by barriers related to race, institutional practices, and personal attitudes. [Institute for the Study of Educational Policy, 1975, p.2]

Accessible higher education has been defined as relatively inexpensive education in nearby facilities with admissions requirements and educational programs that would accommodate most high school graduates (Willingham, 1970). Willingham (1969) also enumerates the chief causes of unequal access or opportunity: financial constraints, academic standards, inaccessible facilities, and social differences. Willingham's associate Ferrin (1970) lists four major barriers to higher education--financial, academic, motivational, and geographic--and outlines efforts that might reduce or eliminate these barriers.

Previous studies of access to education focus primarily on unequal opportunity for blacks or for persons of lower socioeconomic status (SES). The present study deals with discrimination against women and introduces another major barrier: discriminatory practices that hinder equal access.

Since the Educational Equity Act explicitly provides for educational equity for women in the United States, the study is designed to ascertain whether educational inequity is the result of discriminatory practices; and, if so, how these practices operate and how severe the inequity is. Thus, it focuses on the effects of discrimination and inequities in postsecondary education, to the extent that they exist.

We have defined equal access to postsecondary education[1] as an equal opportunity to attend the postsecondary institution that can prepare a person for the occupation or life style for which he or she is best suited by virtue of abilities, interests, and talents, and that can provide those experiences for personal and social growth necessary to achieve self-realization. Full participation in postsecondary education does not, of course, imply that every person should get the doctorate, but rather that every person should make full use of his or her talents: not only those present at birth but also those acquired and developed in elementary and secondary school.

Although the study is limited to the issue of equity in postsecondary education, inequities can begin at birth and continue through life: Typically, girls are treated differently from boys by their parents, by their teachers, by adults generally. Given this history of inequity, then, even if high school seniors were to be treated equally whatever their sex--or their race, socioeconomic background, or whatever--one would expect different people to turn out differently. Equal treatment of people with different past experiences would still result in differing opportunities for men and women at the postsecondary level. Thus, equity for members of each sex will probably require not equal treatment for all but differential treatment by sex.

The achievement of equity implies the absence of discrimination and of prejudice. Webster's New Collegiate Dictionary defines discrimination as "to mark or perceive the distinguishing or peculiar features of" or "to make a difference in treatment or favor on a basis other than individual merit." In a world of scarce resources, where demand outstrips supply, rationing is required and allocations are generally based on some peculiar features of individuals or groups. Such allocations are acceptable as long as it can be agreed that the perceived differences among individuals actually exist and that the characteristics on which the distribution is based are logical and just. But problems arise when rewards are distributed on the basis of characteristics that at least some people think should not be rewarded, or when people disagree over the particular characteristics of those who receive or are denied the rewards.

The latter case, disagreement over characteristics, may involve prejudice: literally, pre-judging. One attributes traits to individuals on the basis of one's past observations of the groups to which they belong, or on the basis of one's earlier experiences (which may no longer be relevant), or even on the basis of hearsay and folklore. One reason why people disagree over the particular characteristics of a group is that precise information is not always available. But those in charge of distributing rewards may think that the cost of making an imperfect, erroneous, or unjust distribution is smaller than the cost of ensuring an equitable distribution. This is not discrimination solely because of prejudice, in that rewards are allocated by some estimate of individual merit, but the estimate may not be accurate.

These processes have diverse policy implications. Let us assume that admission to postsecondary education is inequitable. Does the inequity result from ignorance about how particular traits are apportioned among groups? Or are decision-makers acting invidiously by deliberately and explicitly making decisions on grounds other than merit? In postsecondary education, the concept of merit usually involves traits that increase the probability of graduation (e.g., ability, motivation, persistence), though other definitions are possible. If the inequity results from ignorance, then the information system must be improved so that those making decisions become aware of the characteristics of particular individuals and groups. If, however, those making the decisions are using undesirable criteria, then the criteria should be changed by legislative enactment and distribution activities should be policed by enforcement agencies.

Sociologists distinguish two types of discrimination: (1) that attributable to decisions by individuals or groups, and (2) that attributable to the organization of institutions--"the rules of the game." In the second type, a group may be discriminated against even though no single person takes explicit action; rules can, however, be changed to prevent continuing discrimination.

Those who contend that there is discrimination against women in education usually believe that it is deliberate, that decisions are based on invalid criteria and, hence, that the criteria must be changed. An underlying assumption here is that the sexes do not differ in ways relevant to postsecondary education--or that if differences do exist, the rules of the game favor men--and that the second-class status of women results from the desire of the male establishment to maintain its own power.

Some would hold that discrimination against women in education is not deliberate, that it is attributable to decision-makers' lack of information about the characteristics of each sex. A third position is possible; the current unequal status of men and women in education results, at least in part, from actual and meaningful differences between the sexes, perhaps in their desire for education, but that those differences stem from earlier experiences and can thus be modified.

The views of people concerned about the treatment of women in higher education differ in other ways as well. Some argue that discrimination exists when women are judged on group performance rather than on individual merit. Cross takes this position, stating that "...educational opportunity should depend not upon class stereotypes based on the color or shape of one's skin (the phrase is from Sandler, 1972), but upon individual needs, desires, and potential for contribution" (Cross, 1972, p.8). Freeman believes that the possibility of being discriminated against is as debilitating to women as actual acts of injustice:

> To go through life never really knowing whether one is seen as an individual or as a category, to engage in one's work with questions as to how much of it will be judged strictly on its merit and how much as the product of a member of a group, to be unable to say that one is treated the same as others without hidden bias--these uncertainties in themselves wreak their own havoc regardless of what the real situation may be. [Freeman, 1970, p.118]

Nonetheless, certain points are common to discussions of discrimination against women. One is the question of competence. Bernard says that "when a woman with superior qualifications is bypassed in favor of a man with inferior qualifications, prejudiced discrimination may legitimately be charged" (Bernard, 1964, p.49). She points out that the best competitors suffer most from prejudiced discrimination. "Less qualified candidates can be rejected on many functional grounds: they are not well trained, they are not competent, they do not have the skills, etc. It is only when all other grounds for rejection are missing that prejudiced discrimination per se is brought into play" (Bernard, 1964 p.49). Talking of women professionals, including women in academe, Theodore, maintains that discrimination "occurs when females of equivalent qualification, experience, and performance as males do not share equally in the decision-making process nor receive equal rewards. These rewards consist of money, promotions, prestige, professional recognition, and honors" (Theodore, 1971, p.27).

Another frequently mentioned concomitant of discrimination against women is the existence of restrictions or barriers within institutions and society. Theodore refers to the "lack of normative patterns to facilitate normal entry into the professions and the imposition of barriers which limit access to both the organization and to professional colleagues" (Theodore, 1971, p.27). Roby defines institutional barriers as "the policies and practices in higher education which hinder women in their efforts to obtain advanced education. These barriers include practices pertaining to student admissions, financial aid, student counseling, student services, and curriculum" (Roby, 1973, p.38). Cross, believes that, in a more general sense, any "barriers to individual development" constitute discrimination. In her opinion, "to discriminate is to deny freedom of choice; it is to make decisions affecting the lives of individuals without their consent and frequently without their knowledge." This freedom of choice may be denied "by institutional practices that are consciously or unconsciously discrimin~~ority~~atory," "by social pressures that define acceptable behaviors for women," or by women's "own social conditioning and attitudes regarding women's roles" (Cross, 1972, p. 30).[2]

APPROACH AND ORGANIZATION

This study views educational access as a process by which an individual ahcieves a particular goal. As a process, access incorporates all educational experiences; thus, access to postsecondary education reflects the experiences of a person prior to his/her making postsecondary plans. Because of time and data limitations, the discussion concentrates primarily on the senior year of high school, period of transition from secondary to postsecondary education, and on entry to postsecondary education, with some attention given to graduate study.

Our main objective is to identify the factors that either facilitate or inhibit educational access for women. When facilitative factors are identified, we recommend the continuation and enlargement of the practices which have brought them about. When inhibiting factors are identified, we recommend that the contributing practices be brought to the attention of policy-makers and educators for remedy. Since our major view of education is that it represents the means by which one prepares for his/her life's work, the following six assumptions based on empirical information underlie our analysis:

1. Involvement in satisfying work is a vital component of self-actualization.

2. One important function of education is to provide training and to develop competencies and skills for meaningful employment.
3. Occupations are arranged in a hierarchy based on status. Often this status is reflected in monetary rewards.
4. The greater one's education, the greater the employment opportunities, the monetary rewards, and the degree of satisfaction with work tend to be.
5. Work has become important in the lives of women. Nine out of ten women enter the labor market during their life span. The average work life for women is about 25 years.
6. Women should have access to educational opportunities that provide them with the skills and credentials required for equal access to the occupational world.

Because of our basic assumptions, we emphasize throughout the extent to which women have equal access to higher educational institutions and, in particular, to selective and affluent institutions. In examining women's participation in vocational and technical institutions, we concentrate on their fields of study, because the kind of training they receive in these schools determines later entry to and "success" in an occupation.

Chapter 2 sketches a general picture of women's participation rates in various forms of postsecondary education: collegiate institutions, vocational-technical schools, and proprietary schools. It looks first at the programs women take in high school, since high school preparation is, of course, an important factor in postsecondary access, and especially in entry to specific major fields or vocational-technical areas of concentration. Then, the college enrollments of women are discussed, with emphasis given to the kind of collegiate institutions in which they enroll, the fields they major in, and their career plans. The next section presents data on women's enrollment in vocational-technical education programs and their concentration in certain areas of these programs. Finally, a profile of students enrolled in proprietary schools is presented. Heretofore, adequate data on these students have been lacking. The information presented in this section comes from a preliminary investigation conducted for this study and based on a sample of students at 15 proprietary schools. Throughout chapter 2, comparisons are made not only between men and women but also among racial/ethnic groups. The rationale for including the latter type of comparison is twofold: first, it serves as a point of reference in that it gives some sense of the extent of sex discrimination as compared with racial/ethnic discrimination in the educational system; second, it reveals patterns of sex differences in different racial/ethnic groups.

Chapter 3 discusses the impact of personal and background variables on access to postsecondary education, with special attention to the socialization process by which sociocultural sex norms and sex sterotypes are inculcated. A review of the theoretical and research literature indicates that these sex norms may have a great deal to do with the generally lower educational and occupational aspirations and achievements of women. The second section presents the results of studies on the effects of socioeconomic status, ability, and race on educational access and attainment. Next, we look more closely at the self-image and expectations of women and men, as they are revealed through self-ratings and life goals. The last section deals with achievement motivation in women, a subject that has received considerable attention recently in the research and theoretical literature.

Chapter 4 deals with institutional practices that may have discriminatory effects on women. The information that high school students receive as they consider various postsecondary alternatives (including, of course, whether to continue their education) is crucial to their decisions. Therefore, the first section examines the influence of other people (e.g., parents, peers, and high school counselors); the effects of interest inventories, which have come under much criticism lately as being both race- and sex-biased; and the possible impact of other guidance materials, including occupational handbooks and encyclopedias, college admissions manuals, and institutional catalogs. The admissions process is the subject of the second section, which presents the results of several in-house analyses and exploratory studies on the ratio of applications to acceptances for men and women, on the personal and institutional variables that predict a student's making multiple college applications and enrolling in an institution some distance from home, and on the stated criteria that collegiate institutions use in making admissions decisions. Admission to graduate and professional schools is given particular attention. The third area of institutional practices examined in this chapter relates to the special problems of women, including their very practical need for gynecological care as a part of an institution's health services and for child care facilities and their more subjective need for acceptance and encouragement. The lack of role models and negative or indifferent attitudes on the part of male faculty are aspects of an institution's environment that often have adverse effects on women, particularly at the graduate and professional level and the extent and impact of these institutional barriers are examined.

The financial resources that a person has to draw on often makes a crucial difference with respect to enrolling and persisting in postsecondary education. Thus, financial aid--which may also be regarded as an institutional practice--is given special attention in chapter 5, which first describes various sources of support, with particular reference to the use of each of these sources by women, and then looks at patterns of financial support for students in collegiate institutions, students in proprietary schools, and students in graduate or professional school. The effects of these patterns on women's access to and attainment in postsecondary education are also presented.

In chapter 6, we consider a special population--adult women who have been out of the formal educational system for a period and who want to return. Many such women have outside obligations--to their families or to their jobs--and thus experience difficulties that the typical undergraduate woman does not. We look first at the personal problems that may hinder the adult woman, then at the institutional barriers she may encounter, and finally at continuing education programs for women which were specifically designed to help her cope with the personal problems and overcome the institutional barriers.

Finally, chapter 7 presents the implications of our study and makes recommendations in three areas: programmatic efforts to be undertaken by educational institutions; research efforts needed to fill the rather considerable gaps in our knowledge; and legislative efforts, including amendments to and modifications of existing legislation, that may be required to ensure more equal educational access.

DATA SOURCES

For our critical analysis, we depended heavily on three data sources: (1) research and theoretical literature; (2) statistical reports on high school and college youth; and (3) exploratory studies designed to address questions on which information is lacking in the two other data sources.

Research and Theoretical Literature

Except for several classic works, most of the literature reviewed for this study was published during the last decade. To identify material, we used the following methods:

1. A cataloguing and review of many in-house bibliographies, books, and reports. The bibliographies included Astin, Parelman and Fisher (1975); Astin, Suniewick, and Dweck (1974); Bickner (1974); Harmon (1972); Westervelt and Fixter (1971); Phelps, Farmer, and Backer (1975); Padilla and Aranda (1974).

2. Computer searches of appropriate literature, including the American Psychological Association (APA) service, the Educational Resources Information Center (ERIC), Current Index to Journals in Education (CIJE), and Research in Education (RIE).

Searches were based on key work concepts: for example higher education, sex discrimination, women's education, college-bound students, Negro students, career planning, career choice, minority women, postsecondary education, educational opportunity, role perceptions, role models, school responsibility, and so forth. Annotations of the literature, which appear in the appendix, are catalogued alphabetically.

Statistical Reports

In reexamining data on high school and college youth, we had access to reports from Project TALENT, the ACE-UCLA Cooperative Institutional Research Program (CIRP), the National Scholarship Service and Fund for Negro Students (NSSFNS), and the National Longitudinal Survey (NLS).

Project TALENT. In 1960, Project TALENT, conducted by the American Institutes for Research, surveyed ninth- through twelfth-grade students at a 5 percent stratified random sample of the nation's high schools. Information on ability, socioeconomic status, grades, curriculum, educational and career interests, and expectations was collected. These students were followed up through mailed questionnaires 1, 5, and 11 years after high school graduation, to ascertain their educational, occupational, and personal experiences. To ensure representativeness of the follow-up samples, those who did not respond to the mailed questionnaire were followed up by telephone.

Cooperative Institutional Research Program. Conducted jointly by the American Council on Education and the University of California at Los Angeles, CIRP began operation in 1966, collecting data from all entering freshmen at 307 representative institutions. Currently, the sample numbers over 600 institutions. The entire freshman classes of participating institutions are surveyed upon matriculation; at subsequent intervals, subsamples of these same students are followed up.

The main purpose of the annual freshman survey is to collect data on students by means of the Student Information Form (SIR), a four-page questionnaire designed to elicit standard biographical and demographical information as well as information on high school activities and achievements, educational and occupational plans, attitudes on social and campus issues, and life goals. By repeating many of the same items from year to year, CIRP can not only compare successive cohorts of freshmen to monitor national trends in the characterististics of college students but can also compare the person's initial responses with his/her later responses on follow-up questionnaires to see whether he/she has changed (e.g., in political views or career plans) over time. New items are added each year to explore questions of current interest to higher education. Thus, the SIF has both continuity and flexibility.

National Scholarship Service and Fund for Negro Students. Based on data collected as part of a program to provide counseling and guidance services to black youth, the NSSFNS file contains information on a national sample of black high school seniors representing the classes of 1971-72-73. The sample for each year numbered about 50,000 students at about 7,000 high schools. Types of information included are demographic characteristics, educational and occupational aspirations, attitudes, values, and high school experiences.

National Longitudinal Study. In spring 1972, the NLS collected data from about 18,000 seniors at 1,000 high schools. Follow-up data were collected a year after graduation, and subsequent surveys are planned for a period of from six to eight years. Types of information collected are demographic characteristics, postsecondary plans, educational and occupational aspirations, and high school experiences and achievements.

Exploratory Studies

In connection with this project, we carried out a number of exploratory studies on (1) proprietary institutions participating in the CIRP, (2) the content of institutional catalogs, (3) guidance materials in high school libraries, (4) differential rates of acceptances to applications for college, and (5) admissions criteria in postsecondary institutions.

The following organizations provided information and assistance: National Education Association, American Personnel and Guidance Association, Women's Rights Commission (American Federation of Teachers), Resource Center on Sex-Roles in Education, Black Women's Institute, Business and Professional Women's Foundation, American Council on Education, and Project on the Status and Education of Women (Association of American Colleges).

Data and Time Constraints

The research literature on access in education is limited, overwhelmingly so on issues of unequal access because of sex. Most studies thus far have focused on issues of unequal access resulting from differences in socioeconomic status and race. The landmark volume by Coleman and his associates (1966) launched a series of studies of equal educational opportunity in American society. Classic studies on inequality were also done by Mosteller and Moynihan (1972), and Jencks et al, (1972). A major longitudinal study of educational and occupational development was done by Sewell and his associates. Begun in 1962, this investigation of high school youth during the ten years following their graduation focuses on social and psychological factors in status attainment (Sewell and Hauser, 1975).

Though all these studies concern differential access and attainment, they deal only minimally with sex discrimination as a variable in access. Thus, the existing literature is virtually devoid of studies on this subject.

Recently, some efforts have been made to examine sex differences in admissions, financial aid, and programs and services in educational institutions (Attwood, 1972; Rubin, 1974; McBee & Suddick, 1974). Most recent theoretical and research studies of sex discrimination concentrate on occupational entry and status, perhaps because earlier legislation--such as Title VII of the Civil Rights Act (1964) and the Equal Pay Act (1963) with their ammendments, encourage such an emphasis. The recent Title IX guidelines may stimulate more specific research on sex discrimination in access and in programs.

Because the present study was undertaken to comply with the Women's Educational Equity Act's provision that a study on sex discrimination be completed within a year of enactment, the research team operated under enormous time constraints. The work had to be completed within nine months of the contract date (April 30, 1975 to January 31, 1976).

FOOTNOTES-CHAPTER 1

1. In this study, the term postsecondary education covers two-year and four-year collegiate institutions, proprietary schools and other vocational and training institutions.

2. For a further analysis of issues concerning sex discrimination in education see *Male and Female Graduate Students: The Question of Equal Opportunity*, by Lewis C. Solmon (New York: Praeger, 1976).

CHAPTER 2

RATES OF PARTICIPATION

One way of defining access operationally is to examine the actual participation rates of men and women in postsecondary programs. Though such statistics can give only a sketchy picture of the situation, they at least allow us to ascertain the extent to which women are taking advantage of all available educational opportunities. This chapter, then, looks at participation rates in various educational activities for men and for women; as a point of reference, the participation rates of whites are compared with those of minority group members.

A student's high school preparation--especially the type of program taken and the grades achieved--are clearly related to his/her educational plans and may even determine access to postsecondary institutions. The choice of a high school program, and achievement in that program, are influenced by such factors as family, teacher, and peer pressures and expectations, socioeconomic status, and counseling experiences (see chapter 3 for a discussion of these factors). The first section of this chapter looks at the high school preparation and educational plans of the different groups of students.

The second section concerns those students who choose a collegiate institution: the distribution of the sexes and of racial/ethnic groups among different types of institutions; their selection of a college major and their career plans; and their degree attainment. The third section, on those students who enroll in vocational-technical educational programs, compares the fields chosen by men and by women. In the fourth section, the students enrolled in proprietary school--heretofore a group somewhat neglected by researchers--are considered: their background characteristics, their educational preparation and plans, the reasons for their choice of school and career.

By looking at participation rates among and within these different types of postsecondary education activities, we can, then, infer the relative ease of access enjoyed by men and by women, by whites and by minority-group members.

HIGH SCHOOL PREPARATION AND EDUCATIONAL PLANS

National Longitudinal Study (NLS) data based on the high school class of 1972, reveals some notable differences between the sexes and among the racial/ethinic groups with respect to the type of high school program taken.[1] For instance, the sexes were sharply segregated within vocational-technical programs: 21 percent of the women, compared with only 3 percent of the men, were taking business and office courses; and 11 percent of the men, compared with only 1 percent of the women, were concentrated in trade or industrial areas. Though about the same proportions of men and of women took general or academic (college-preparatory) programs in high school, enrollment in these programs differed according to racial/ethnic background. Thus, close to half (45 percent) of the white students, but only 33 percent of the black students, and 29 percent of the Hispanic students, were enrolled in academic programs. Approximately equal proportions of whites and blacks were enrolled in general programs, whereas the proportion of Hispanic Students in these programs was higher.

The high school programs that the students took were often inconsistent with their educational plans. A comparison of Tables 1 and 2 indicates that considerably more students planned to attend a four-year college or university--or even to go on to graduate or professional school--than were enrolled in academic (college preparatory) programs. Still larger percentage indicated they would like to attain a high educational level (Table 3). Since it is highly questionable whether students who take a general or vocational-technical program in high school will have the necessary background and qualifications to realize these plans, one wonders how to explain these apparently unrealistic ambitions. Why, if they wanted to go on to college, did so many students choose unsuitable high school programs?

Some light is thrown on this question by additional NLS data indicating the persons cited by students as the most important influences in their selection of a high school program. About three times as many black and Hispanic (19 percent of each group) as white students said they had no choice, because only one program was available or because they were assigned to a program. Moreover, these minority-group students tended to mention more people as influencing their decision than did the white students. Perhaps this means that the choice of a program was more straightforward for white students: They were expected to take a college preparatory program, and they did so. Minority students, in contrast, may have no such clear-cut choice: financial problems and societal expectations make the decision to take an academic course a difficult one.[2]

Guidance counselors were cited as an important influence by only 13 percent of the white, 26 percent of the Hispanic, and 30 percent of the black students. Apparently, the high school counseling staff is not carrying out its proper function for a large proportion of high school students: it would seem that counselors could do more toward helping students reach decisions. (See chapter 4, p.125, on the role of information, for an elaboration of this point.)

High school grades are usually considered crucial in the college admissions process and thus affect access to postsecondary education. As Table 4 indicates, girls made considerably better high school grades than boys did, (and this was true among blacks as well as white students; see table 5), yet fewer girls planned to attend graduate or professional school (table 2). The dynamics that account for this discrepancy are complex; but plainly, the lower aspirations of women are not explained by their doing less well in school.

Though whites made better grades in high school than blacks or Hispanics did, approximately equal numbers of each group planned to attend college. Thus, 52 percent of the white students planned on at least a bachelor's degree, and 79 percent made C+ or better grades in high school; 52 percent of the black students and 43 percent of the Hispanic students had similar aspirations, but only 70 percent had comparable grades. The desire to attend college--despite a rather poor high school record--may stem from the minority student's belief that a college degree is a ticket upward in the occupational and social structure.

The particular subjects studied in high school also affect access to postsecondary education. The student with little or no preparation in mathematics and science is not eligible for a technical program and is not likely to be sought after by an engineering department. Yet, as Tables 6 and 7 indicate, among both white and black students, a smaller proportion of girls than of boys took five or more semesters of mathematics and science courses (although these girls made slightly better grades in these courses than the boys). The reasons for, and the consequences of, this underrepresentation of girls in mathematics and science are clearly stated by Steele.

> In terms of high school curriculum, girls still received differential treatment. They are restricted to vocational programs providing preparation for lower paying "female" occupations. Fewer girls enroll in mathematics beyond fundamental algebra and geometry, and physics and electronics are almost as segregated as industrial arts. While such classes are not "closed" to girls, social expectations of male superiority in math and science, reinforced by family, school and peers serve as a covert restriction which later bars women from enrolling in technical programs. [Steele, 1974, p.92]

Girls were more likely than were boys to take English and foreign language courses in high school--preparation that usually leads to an arts and humanities major rather than a science major in college. Thus, this channeling process narrows the option of women early in their lives, keeping them confined to traditionally "female" fields.

A disturbing number of talented students are "lost" between high school and college. According to NLS date, sizable proportions of students who believed that they had the ability to do college work were not planning to attend college. For instance, although three-fourths of the female respondents felt they were capable of completing college, fewer than half (45 percent) were planning to attend. Similar disparities between perceived ability and educational plans were found among other subgroups of the high school seniors; the differentials were 17 percent for men, 25 percent for whites and for Hispanics, and 23 percent for blacks.

If this talent loss between high school and college is to be prevented, we must know more about why students who feel themselves capable of college work fail to go on to college. What obstacles hinder them? Are the obstacles different for different groups of students? Responses to an NLS item asking those seniors who did not plan to continue their academic education on more than a part-time basis during the next year to indicate the reasons help to answer these questions. Lack of money seems an all-too-prominent reason, particularly among minority students. For instance, about one-fourth of the students not planning to continue their education expected to work full-time; and although many of them said that their future plans required no further education, that they did not like school or that they wanted to break from it, almost one in three of the men and women, and of the whites in this group, and almost half of the blacks and Hispanics, said they needed to earn money before they could pay for further education. The economic differences between white and minority students are underscored by the finding that 26 percent of the Hispanics and 34 percent of the blacks said they needed to earn money to support their families; the comparable figure for whites was only 12 percent.

Poor grades or low scores on college admissions tests were another major reason for the failure to continue education. More men (24 percent) than women (15 percent), and more Hispanics (29 percent) and blacks (23 percent) than whites (18 percent) cited this reason. Lack of information--including a failure to find out in time about college admissions requirements, about the cost of attending college, or about the availability of a college in the area--was given as a reason by one in four Hispanics, one in five blacks, but only 8 percent of the whites.

Another large group of high school seniors planned neither to enroll in college nor to work full-time; 7 percent of the men and 11 percent of the women; 9 percent of the whites, 9 percent of the Hispanics, and 13 percent of the blacks planned to take vocational or technical courses at a trade or business school. Although over half of these students said that their plans simply did not require a college education, many were hindered by financial problems, and these problems were particularly severe for minority students. Almost three in five of the blacks and Hispanics, compared with only half of the whites, said they needed to earn money to pay for more education; about half of each minority group (and of the whites as well) indicated they could not afford a college or university education. About half the women, but only one-third of the men, mentioned these constraints.

Smaller proportions (a percent or less of each group, by sex and by racial/ethnic background) planned to work part-time, to enter apprenticeships or on-the-job training, to join the military, or to become full-time homemakers. Those who expected to work part-time cited the need to earn money for further education as the reason they would not be attending college the following year. Those planning to begin apprenticeships or on-the-job training frequently said they did not need any further schooling or wanted a break, but sizable proportions--30 percent of the men and 43 percent of the women; 31 percent of the whites, 40 percent of the Hispanics, and 54 percent of the blacks--mentioned the need to earn money to pay for college. Students going into military service--and particularly minority-group members and women--cited the desire to take a break from formal education or the need to make money. Of those who planned to become full-time homemakers, marital plans and the lack of need for further education were given as the principal reasons for not continuing on to college.

To summarize: The reasons that students gave for not continuing their education full-time the year after high school graduation varied according to sex and to racial/ethnic background. More white than minority students, and more women (except for those joining the military) than men said they were not continuing by choice: Their plans simply did not call for more schooling. More minority students than whites, and more men than women, cited financial considerations. Apparently, for those who must support themselves (and in some cases their families as well), even low-or no-tuition community colleges are prohibitively expensive because of forgone income. More men than women, and more minority than white students, were prevented from continuing by poor high school grades or college test scores. Men and minorities were more likely than women and whites to suffer from a lack of information: about admissions requirements, colleges costs, and even the availability of a college.

To further explore the reasons students give regarding their post-secondary plans, we examined NSFFNS data which provided insight into why black high school seniors go to college (table 8). Apparently, black women were more likely to be motivated by "altruistic" considerations, whereas black men were likely to regard the economic benefits of a college education as very important.

The reasons for choosing a particular college varied somewhat by sex and by race/ethnicity. College expenses and the availability of financial aid were important considerations among minority students--further evidence of their overall concern about finances (Table 9). The lower grade averages of minority students also may have affected their choice of a college in that many mentioned the admissions standards of the institution as an important reason for choosing it. In addition, Hispanics were concerned with being able to live at home while attending college. Women were more interested than men in the academic program and reputation of the institution, including its admissions standards; they were also more concerned about costs and about the availability of financial aid. This concern may reflect the parents' greater willingness to pay for a son's education than for a daughter's. Given the heavier dependence of women on their parents for financial support in college (it is pertinent here that women were more likely than men to look to their parents for advice in selecting a college) and their greater difficulty in earning money to pay for their education (Bengelsdorf, 1974), this parental attitude--that higher priority should be given to educating a son than a daughter--puts women at a disadvantage. Despite their higher grades, they are less likely than men to go on to college; and those who do attend may be more likely to select a less expensive, less prestigious institution than they would otherwise have chosen.

COLLEGE ENROLLMENTS

According to the National Center for Educational Statistics (NCES), 1.53 million males and 1.58 million females graduated from high school in the academic year 1973-74; in the fall of 1974, 980,000 males and 870,000 females enrolled in higher education institutions as first-time, degree-credit students. If all these students came directly from high school, it means that 64 percent of the male, compared with 56 percent of the female, high school graduates were continuing their education. But even though women lagged behind men in college enrollments, the picture is not totally discouraging: College enrollment among women has increased dramatically over the past decade, just about doubling between 1964 and 1973 (U.S. Bureau of the Census, 1975).

Of the college-age (18- to 20-year old) youth in this nation about one in three whites and one in five blacks were enrolled in college in 1973 (U.S. Bureau of the Census, 1975). Though comparable figures for college-age Hispanics are not available, the following statement conveys the general flavor of the situation: "Of 100 Mexican American students entering grade one, it is estimated that 23 enter college and five complete college. Among Anglo students the corresponding figures are 49 percent and 24 percent" (Ferrin, Jonsen, and Trimble, 1972, p.4). The outlook is even bleaker for American Indians. Although an estimated 90 percent of American Indian children of school age attend school, only 50 percent complete twelfth grade; only 17 percent enter college; and of those, only 4 percent graduate (Parsons, 1975).

Table 10 shows the distribution of first-time degree-credit students in 1974 by racial/ethnic background and by sex within these categories.

In comparison with their representation in the U.S. population (87.5 percent), whites were slightly overrepresented among first-time students, whereas blacks and Hispanics (who comprise 11.1 percent and 4.5 percent of the population, respectively) are underrepresented. Of the freshmen who entered college in fall 1975, 8 percent of the male population, and 10 percent of the female population, was black (Astin, King, and Richardson, 1975). This difference in the college attendance rates of black men and women (which reverses the pattern of the sexes found among whites) may reflect the historical dominance of the black woman in the economic life of the family; black girls may grow up expecting to work as adults, and this expectation may influence them to prepare for careers by attending college.

In the fall of 1974, 4.9 million men and 4 million females were working toward a college degree. It is well known that as the educational level rises, the proportion of women enrolled decreases: Thus, women constituted 45 percent of two-year college enrollments, 43 percent of four-year college enrollments, and 42 percent of graduate enrollments (National Center for Educational Statistics), reprinted in Chronicle of Higher Education, September 2, 1975).

Distribution of Students Among Institutions

A critical issue related to access is the type of institution a student attends. Attending a prestigious and affluent institution has obvious advantages: Not only does such an institution offer the student rich learning experiences, but also it may provide "fringe benefits" in that it facilitates his/her entry into graduate or professional school and into high-status occupations (Astin and Bayer, 1972). Do women, who generally make better grades than men and score about as well on aptitude tests, enter high-quality institutions in the same proportions as men? They constitute 45 percent of all college enrollments; what is their proportion in these elite institutions?

To answer these questions, we conducted an analysis using a data file merged from two sources: (1) an institutional selectivity index, developed by the CIRP research staff and based on the aptitude test scores of students at a given institution, and (2) data collected during fiscal 1972 and 1973 by the Higher Education General Institutional Surveys (HEGIS), based on 2,592 higher education institutions. Thus, we had information on the following institutional characteristics: public vs. private control; selectivity; affluence, measured by expenditures per student; and level of faculty salary.

Women were concentrated in smaller (table 11), less selective (Tables 12 and 13), and less affluent (table 14) institutions, where median faculty salaries were relatively low (table 16). Were the distribution equitable, one would expect them to constitute 45 percent of the students at any institution, regardless of type. But they made up only 37 percent of the student body at highly selective public universities, and only 29 percent at highly selective private universities (table 15). Instead of being evenly distributed among institutional types, they were concentrated at Catholic institutions and at private, medium-sized, two-year colleges.

It seems reasonable to suppose that the more an institution spends per student for educational facilities and resources, the richer and more substantial the educational experience is likely to be. But as table 14 indicates, women lost out here, being less likely to attend affluent institutions. It seems reasonable to suppose, further, that faculty salaries are an index to faculty quality and, thus, to educational excellence. But here too women were slighted, since they attended institutions where median salaries were low (table 16). The concentration of women students in these institutions may reflect, in part, a higher concentration of women faculty at these institutions, since evidence indicates that women faculty, whatever their worth, are consistently paid lower salaries than their male counterparts (Astin and Bayer, 1972: Bayer and Astin, 1975).

Although we may suspect from this analysis that discrimination against women exists, its precise nature and causes are less certain. Do elite institutions have policies and practices that operate to exclude women? Are women discouraged from attending these institutions by their parents, teachers, counselors, friends? Do they lack confidence in their ability to succeed in a highly select~~ed~~ive institution and thus fail to apply? Or, conversely, do they fear the possible side-effects of success at such institutions?

Another type of institution where women are drastically underrepresented is the institute of technology and engineering (Table 17). Enrollment figures for 36 technical institutions revealed that at none did women constitute more than 35 percent, and the mean percentage of women at these institutions was 12.7 percent. But again, the analysis does not tell us whether the causes of this underrepresentation lie with the institutions, society, or the women themselves. That the situation may be changing is evidenced by increased enrollments of women in technical and professional programs actively recruiting them (Boyer, 1973).

College Major and Career Plans

Just as a student's selection of a program in high school limits his/her choice of a college major, so a student's choice of a college major limits his/her access to various occupations. The choice of a college major, then, may have significant consequences for one's future. Table 18 shows the distribution of entering college freshmen with respect to their probable major fields of study, and table 19 gives similar information on black high school seniors.[3] Women were most likely to name as their probable college majors education or business, the latter having moved up from fourth position in 1970. Generally, the popularity of such traditionally female fields as education, English, humanities, and fine arts declined somewhat among women, whereas the nontraditional fields of business, biological sciences, agriculture, and "other technical" and nontechnical fields grew in popularity. Black women have shown an interest in a business major for a longer period of time than have women-in-general; and only about half as many black women planned to major in education. Though the growing tendency to choose nontraditional major fields may indicate that women are now willing to consider more options than they were in the past, nonetheless the most popular fields among women were, except for business, the traditional ones: education, non-M.D. health fields, social science, and "other" nontechnical fields; in contrast, the first four choices of men-in-general were business, engineering, "other" nontechnical, and technical fields.

What are the women who choose nontraditional majors like? Using data from the 1972 CIRP freshman survey to study the tiny proportion of women who plan to major in engineering, Holmstrom gives the following description:

> Basically, the women who wanted to major in engineering among 1972 freshmen were younger and brighter than other students; came from a mid-income family with well-educated parents; had high academic aspirations, and differed from other students, both men and women, in some of their attitudes and life goals. (Holmstrom, 1975, pp.3-4)

In short, women who pioneer by majoring in traditionally male fields tend to be bright, assertive women with high aspirations.

Comparing the probable majors of all entering college freshmen with those of black high school seniors, one finds that proportionately more black men and women planned to major in engineering, the social sciences, and the non-M.D. health professions, fewer expected to major in agriculture, the biological and physical sciences, and "other" technical and nontechnical fields. The fine arts attracted relatively more blacks, expecially men; and business attracted a larger percentage of black women and a smaller percentage of black men than of their counterparts in the general freshman population. Conversely, proportionately more black men and fewer black women planned to major in education than did men and women in general.

Do probable college majors correspond to career plans? Table 20 shows trends over time in the career plans of college freshmen. (Because of their vagueness, "other" and "undecided"—categories which, combined, accounted for 37 percent of the men and 40 percent of the women - were eliminated from consideration.) In 1974, the proportion of men planning to enter the three most popular careers among men - business, engineering, and medicine - corresponded closely to the proportion of men choosing the appropriate undergraduate majors. Among men, farming or forestry and the nonmedical health fields became somewhat more popular as career choice over the 1966-1974 period, whereas careers in secondary education and engineering dropped in popularity. Women planned careers in nonmedical health fields, art, and teaching in the same proportions as planned to major in the corresponding fields of study. Almost twice as many women proposed to major in business as aspired to a career in this field; but even so, business, along with nursing, grew more popular over time as career choices among women. Both elementary and secondary teaching became less popular, undoubtedly because of job scarcity. Despite some changes over time in the direction of greater freedom from stereotyped choices, men were still primarily interested in traditionally "male" business and professional fields, and women were preparing themselves for traditionally "female" occupations. The increased interest of women in the field of business (as reflected in the 16 percent who selected it as probable college major) is somewhat vitiated in that only about half of them planned to put this training to work.

The career plans of black high school seniors (table 21) were both similar to and different from those of college freshmen-in-general. Like men in the general college freshmen population, black men chose business more frequently than any other career. But over twice as many black men as men-in-general aspired to careers in the arts, a difference that may be explained in part by the longstanding acceptance blacks have found in the arts, particularly the performing arts. The next most popular careers among black men were engineering and science, choices similar to those of men-in-general.

Black women were more remarkable in their career plans. Twice as many black women as women-in-general aspired to be businesswomen, lawyers, and physicians. Careers in education and nonmedical health fields were chosen less frequently by black women than by women-in-general. Although the career aspirations of black women were less traditionally female and more professionally oriented than those of all women, their top four career choices (business, nursing, education, and nonmedical health fields, in descending order) were similar to those of women-in-general.

As a special point of interest, we compared the career plans of women students age 31 and above with those of women-in-general (table 22). The older women were almost three times as likely to be planning on a nursing career and somewhat more likely to be planning on a business career. They were less likely to be undecided about their plans than were women-in-general. Overall, older women emerged as being more practical and more in touch with the realities of the job market than were their younger sisters; they were less likely to name as career choices elementary or secondary teacher (a career where supply exceeds demand), doctor or lawyer (careers that require extensive preparation), artist (a career requiring exceptional talent), engineer, farmer or forester ("male" careers that call for a pioneering spirit). They were only half as likely as women-in-general to plan a career in a health profession (non-M.D.) field, perhaps because they see these careers as requiring more extensive and specialized training than they wish to undertake.

Degree Attainment

In 1973-74, women earned 45 percent of the bachelor's degrees awarded, up one percentage point from 1971-72. Table 23 shows the fields in which they earned these degrees. Only in the traditionally female fields did they earn more than half the bachelor's degrees. But degree attainment does not necessarily guarantee employment: In the case of job-related majors, such as education and library science, these women faced a tight labor market. Other major fields in which women constituted a majority of those receiving bachelor's degrees--e.g., foreign languages, and fine and applied arts--offer few employment possibilities. Only for women majoring in the health fields and in home economics did job prospects seem favorable.

What of the future? First-time degree-credit enrollment, expressed as a percentage of the 18-year-old population, reached its highest point for both men and women in 1969 and 1970; since then, the percentages have declined. It has been projected that the percentage of 18-and 19-year-olds who attend college will level off at the 1973 figure and remain constant through 1983 (Simon and Frankel, 1975). Women are expected to constitute 46 percent of total degree-credit enrollment in all institutions of higher education and 44 percent of total degree-credit enrollment in four-year institutions in 1983. The proportion of bachelor's degrees earned by women is expected to increase by 3 percentage points from 45 percent to 48 percent. Overall increases are expected in the numbers of social science and humanities degrees awarded. Will women remain concentrated in the same fields as in the past, or will they diversify and enter nontraditional fields? If the latter is to occur institutions bear much of the responsibility; they must make efforts to encourage women to enter fields which heretofore have always been male territory.

In 1973-74, women earned 9 percent of the first professional degrees,[4] 44 percent of the master's degrees, and 19 percent of the doctorates awarded. Women earned more than half of the master's degrees in only six fields, which were, in descending order, home economics, library science, foreign languages, education, health fields, and letters. (table 23). Women also earned the majority of bachelor's degrees in these fields, but the proportion of the total earned by women decreased in every case, from 1 percentage point in letters to 17 percentage points in the health professions.

At the doctoral level, women earned the majority of degrees in only one field, home economics. They received more than one-fourth of the doctorates in seven additional fields: library science, foreign languages, letters, psychology, area studies, education, and interdisciplinary studies. An interesting phenomenon seems to be occuring in the "female" fields: As the degree level rises, so does the participation of men.[5] Where did those men who earned 34 percent of the doctorates in home economics come from? Only 9 percent of the master's degrees and 4 percent of the bachelor's degrees awarded in this field went to men. Unfortunately, the reverse phenomenon - an increase of women in "male" fields as the degree level rises - does not occur. At best, the proportion of women receiving master's degrees in a field remained constant or increased slightly, before dropping again at the doctoral level.

Even as graduate students, then, women remained concentrated within traditionally female fields. One wonders about their job prospects. Where did the 2,640 women with master's degrees in a foreign language and the 6,881 women with master's degrees in arts and letters find employment in 1974? Library science and education are fields where job openings are limited. Currently, women may have a better chance for employment in traditionally "male" fields—where affirmative action has given impetus to a search for qualified women—than in "female" fields. Women must begin to explore a wider range of job possibilities.

Growth in graduate enrollments is expected to slow down in the period 1974-1983. It is projected that women will earn almost twice as many of the first professional degrees in 1983-84, up from the current 9 percent to 17 percent. The expected growth in percentage of total master's and doctoral degrees earned by women is less impressive: an increase of 2 percentage points to 46 percent at the master's level and of 4 percentage points to 22 percent at the doctorate level (Simon and Frankel, 1975).

VOCATIONAL-TECHNICAL EDUCATION

Vocational-technical training is an alternative frequently chosen by those who do not elect to go the college route. In 1972, two in five high school students were enrolled in vocational education courses (Steele, 1974). As it was indicated earlier in table 1, 28 percent of the girls and 20 percent of the boys who were high school seniors in 1972 reported they were enrolled in a vocational or technical program. The total 1972 enrollment in vocational education programs was 11.6 million[6] (63 percent in secondary programs, 11 percent in postsecondary programs,[7] and 26 percent in adult education programs[8]), of which over 55 percent were women. In 1970, women constituted 63 percent of all secondary, 39 percent of all postsecondary, and 46 percent of all vocational students in adult vocational education (Steele, 1974). In short, women are well-represented among vocational education students. But as one writer observes:

> The real problem in vocational education is not that of the exclusion of women, a readily challengeable practice which was overturned in the Sanchez, Della Case and Steward cases, but the more insidious counseling and tracking of female students into "acceptable" vocational programs. (Martinez, 1974, p.7, in Center for Law and Education).

Looking again at table 1, we find the majority of high school girls were enrolled in business of office courses, whereas the majority of men were in trade or industrial courses. Of the women enrolled in vocational education programs at all levels in 1972, 49.5 percent were taking homemaking or consumer education classes not meant to prepare them for employment, and most of the remaining 50.5 percent were taking courses designed to prepare them for work in traditional, and severely limited, "female" jobs (Steiger and Cooper, 1975). Table 24 shows the distribution of women and of men in vocational fields. The traditionally female fields of homemaking, home economics, and office skills accounted for 84 percent of all women taking vocational courses. Moreover, the women in the job-related fields of office skills and health were clustered in relatively low-paying specialties. For instance, they outnumbered men in classes devoted to stenographic, secretarial, and clerical skills, but accounted for only 49 percent of the enrollments in business data processing systems courses and 28 percent of the enrollments in supervisory-administrative management courses.

Of the men enrolled in vocational education, 72 percent were in agriculture, technical fields, and trade or industrial fields, in sharp contrast to 6 percent of the women. Women accounted for 12 percent of the total enrollment in trade and industrial education. Nationwide enrollment in technical programs was 90.2 percent male and 9.8 percent female (table 25). As Steele points out:

> There is no reason other than custom to prevent women from enrolling in technical programs. None has weight or strength restrictions. However, at least 17 of the occupations require mathematics and/or science as prerequisites, courses in which fewer young women enroll in secondary school. [Steele, 1974, p.38]

One finds the same imbalance at the postsecondary level: Women clustered within a disproportionately narrow range of vocational categories; within these categories, they tended to aim for supportive and less rewarding jobs. For instance, of 75 technologies in postsecondary vocational -technical education, women were the majority in 27 fields, most of them related to health, business, or commerce. Dental hygiene was 99 percent female, whereas mechanics and machine techology were 99 percent male. In the field of data processing, women constituted over 85 percent of the enrollments in courses to train key punch operators, but only 27 percent of the enrollments in computer programmer technology. Courses in the maintenance of data processing equipment included virtually no women (Steiger and Cooper, 1975).

This segregation by field, and by type of job within field, has serious economic implications. Taking 84 Office of Education instructional programs in vocational-technical education and their corresponding Dictionary of Occupational Titles job classification, Steele compared the average entry level earnings of men and women (based on 1972 and 1973 figures). She found that those occupational areas in which women student concentrated led to lower-paying jobs than did those in which men predominated. Female-intensive programs in vocational education lead to female-intensive areas of employment, where earnings are only about two-thirds as high as in men's fields.

Projections for five years into the future (table 26) indicate only minor changes. No doubt, the socialization process--which breeds the expectation that women will enter some fields but not others--accounts for much of the sex segregation in vocational education. High school preparation, or more precisely the lack of it in mathematics and the sciences, further limits women's options. Unless explicit steps are taken to attract women into those areas of vocational education now dominated by men, they stand little chance of making breakthroughs into the higher-paying occupational levels.

PROPRIETARY SCHOOLS AND THEIR STUDENTS

Proprietary schools enroll over three million students each year, producing gross annual revenues (taxable income) of at least $2.5 billion. Of the approximately 10,000 proprietary schools in the United States a third are trade and technical schools, another third are cosmetology and barber schools, and the final third are business and correspondence schools. Pointing out that earlier studies of proprietary schools had not controlled for student background characteristics and ability, Wilms (1974) undertook a comparative study of the effectiveness of public versus proprietary vocational training. His study, based on the labor market experiences of graduates from 21 public and 29 proprietary schools in Boston, Chicago, Miami, and the San Francisco Bay Area, showed that the proprietary student was more likely than was the public school student enrolled in a similar program to be a member of a racial/ethnic minority and to have low educational status and poor verbal skills. His data analyses, which focused on the effectiveness of educational programs in the two sectors, were not presented separately by sex.

Adequate data on the characteristics of proprietary students are lacking; even the most basic facts—such as the distribution of students by age, sex, and race—have remained undocumented. For the most part, researchers have been unable to provide information about how proprietary students compare with students in the collegiate sector or how men and women students in proprietary schools compare with each other.

The analysis reported here was a preliminary investigation designed to correct some of those deficiencies. Because of the often-mentioned similarity between many vocational programs in the public sector and proprietary programs, it uses as a comparison group freshmen men and women entering public two-year colleges (Astin et al., 1974). The information on students attending proprietary schools is based on data collected in the fall of 1974 from 15 such institutions that agreed to participate in the CIRP.[9] These schools offered a variety of programs: business management, accounting, electronics, engineering, data processing, secretarial skills, public relations, art, fashion merchandising, interior design, photography, advertising, air conditioning, plumbing, veterinary technology, nursing (LVN), and medical and dental technology. They were located in cities in ten states: Los Angeles and San Bernardino, California; Atlanta, Georgia; Huntsville, Alabama; Minneapolis, Minnesota; Lincoln, Nebraska; Cleveland Heights, Ohio; Louisville, Kentucky; New Kensington, Pennsylvania; Oklahoma City, Oklahoma; and Dallas, Texas.

Usable responses were obtained from 1,446 students, averaging 93 students per school. In this section, we will discuss the background characteristics of these students, their educational preparation and aspirations, and reasons for their choice of school and career. The comparison group comprises community college freshmen of both sexes.

Background Characteristics

In the sample of proprietary school students, women outnumbered men three to one. The men tended to be older than the women: 21 percent of the men, but only 6 percent of the women, were age 22 or older, compared with fewer than 5 percent of entering freshmen of both sexes in community colleges. This major age difference reflects the large number of veterans who enrolled in proprietary schools, as well as the large number of students who had previously attended other types of postsecondary institutions. One of every five men in the proprietary was a veteran, compared with only 6 percent of the men entering community colleges. Nearly one in four proprietary students had attended another postsecondary institution for credit before enrolling in the present school in 1974: 6.5 percent attended community colleges, 11 percent attended four-year colleges or universities, and 7 percent attended other postsecondary institutions. Slightly over one in ten reported prior attendance not for credit at a postsecondary institution.

The racial ethnic distribution of proprietary school students was similar for both sexes, although women are slightly more likely to be American Indian or Mexican American. More than three times as many black men and twice as many black women were enrolled in proprietary schools as in community colleges. Though proportionately fewer Mexican-American men were enrolled in the proprietary schools than in the community colleges, other minorities were similarly distributed in the two groups.

Students in the proprietary sample were from lower socioeconomic backgrounds, as measured by parents' education and annual income than community college freshmen. The women in the proprietary sample were more likely than the men to have college-educated parents.

Students attending proprietary schools were more likely to be married than were other postsecondary students: 8 percent, contrasted to only 2 percent of all freshmen and 4 percent of community college freshmen. It is interesting that while married freshmen in collegiate institutions were about equally divided between men and women, the married proprietary school student was three times more likely to be male; this is consistant with the age difference between men and women in proprietary schools.

Educational Preparation and Aspirations

Over 15 percent of the students at proprietary schools had graduated from high school one or more years previously, compared with only 10 percent of the community college freshmen. Men were overrepresented in this group: 21 percent men compared with 13 percent women. Four times more men than women had passed high school equivalency examinations (GED) -8 percent of the men and 1 percent of the women- in contrast to only 2 percent of the men and 1 percent of the women entering community colleges. Proprietary school men were three times as likely as other freshmen never to have completed high school: 4 percent, compared with 1 percent of community college men. Only 1 percent of the proprietary school women had never completed high school.

Fewer proprietary school students had taken college-preparatory programs in high school, (57 percent, compared with 77 percent of community college freshmen), though slightly more men than women had college-preparatory backgrounds. The women made slightly better grades in high school: 65 percent of the women, but only 39 percent of the men in the proprietary sample, earned high school grades of B or better.

The men attending proprietary schools tended to have higher degree aspirations than the women: About one in five men hoped eventually to get the baccalaureate, compared with 13 percent of the women; in contrast, over a third of both sexes in the comparison group sought the baccalaureate as their highest degree. More men (36 percent) than women (20 percent) in the proprietary sample aspired to an associate degree, while more women (28 percent) than men (11 percent) planned to get no degree at all.

Reasons for School and Career Choice

Over half of the women (53 percent) and 45 percent of the men at proprietary schools stated that "special educational programs" were important factors in attracting them to their particular school; only one in four men and one in three women entering community colleges cited this factor. Three of every ten proprietary school students selected the school because it "offered financial assistance," whereas only 15 percent of all community college freshmen gave this reason. Clearly, in selecting a school, the nature of the program and the availability of financial aid was more important to proprietary school students than to community college freshmen.

Two-thirds of the women in the proprietary sample planned to major in business: Of the men, two in five planned to major in "other" technical fields, one-fourth in business, and 16 percent in engineering. One of every five proprietary school students cited business as their probable future occupation.

The reasons that proprietary school students gave for their long-term career choices differed by sex. Three-fourths of the women said that working with people was very important to them, whereas only 47 percent of the men found this important: This sex difference parallels that among community college students. Nearly two thirds of the women cited being helpful to others as a very important factor in their career choice, while only 47 percent of the men responded similarly: again, this split was also evident in the collegiate sector. Over half of the women (52 percent), but only 36 percent of the men, said they chose the career because it was a "respected occupation"; only one-third of the community college students of either sex cited this reason. The availability of job openings was very important to 60 percent of the women and 54 percent of the men at proprietary schools; comparable figures for the community college sector were 54 percent of the women and 43 percent of the men.

SUMMARY

From examining the participation rates of men and women in educational activities, we can ascertain the extent to which women are taking advantage of all available educational opportunities. The kind and amount of education women received have implications for their future employment opportunities.

According to National Longitudinal Study (NLS) (1975) data, the scores were sharply segregated among vocational and technical programs in high school: 21 percent of the women compared with 3 percent of the men were in business or office occupations and 11 percent of the men compared to 1 percent of the women were in trade or industrial occupations. Although a slightly greater proportion of men than of women were in both general and academic programs, racial/ethnic differences existed: While 45 percent of whites were in academic programs, only 33 percent of blacks and 29 percent of Hispanic students were similarly enrolled. Approximately equal percentages of white and blacks were enrolled in general high school programs, in contrast to a larger percentage of Hispanic students.

Women made considerably better high school grades than men, yet fewer women than men planned to attend graduate or professional school. Although, black students generally made lower high school grades than whites, black women made higher grades but were less likely than black men to have high educational aspirations.

The subject areas studied in high school affects subsequent access to postsecondary education. Both black and white high school girls tended to underprepare in mathematics and science even though those who did enroll in these subjects received slightly better grades than boys.

Responses to the NLS questionnaire indicated that high school seniors who did not plan to continue their education on a full-time basis the following year gave various reasons for this decision. Overall, more whites than minority students, and more women than men (except for those joining the military), indicated that their plans simply did not require any more schooling. Financial considerations prevented more minority students than whites, and more men than women, from continuing their education. Poor high school grades or low college admissions test scores were cited as a reason by more men than women and more minority students than whites. Men and minority students were also more likely than women and whites to discontinue their education because they did not get the necessary information in time: They didn't know about admissions requirements, or about what an education costs, or about whether there was a school in the area they could attend.

Examining the relative importance of factors assigned to a student's selection of a particular college, one finds that economic considerations were very important for minority students, and somewhat important for women.

Although the absolute number of women enrolled in institutions of higher education just about doubled between 1964 and 1973, the proportion of women still lags behind that of men. Approximately one-third of white youth in the 18-21 year age group were enrolled in college in 1973; only one-fifth of black youth in this age group were enrolled. It has been estimated that 23 percent of Mexican-Americans and 17 percent of American Indian youth enter college.

As the educational level increases, the proportion of women enrolled decreases: Women comprised 45 percent of two-year college enrollments, 43 percent of four-year college enrollments, and 42 percent of graduate enrollments; of the last group, most were in terminal master's programs. A critical question relating to equal access is the types of institutions attended by various groups of students. [redacted] A study conducted for this report using data collected by the Higher Education General Institutional Surveys (HEGIS) during fiscal 1972 and 1973, [redacted] found that women attended smaller, less selective, and less affluent institutions. Examining enrollment figures for 36 technical institutions, we found women were clearly underrepresented in schools of technology and engineering.

A student's choice of college major has a profound effect on his/her subsequent access to various occupations. The picture has changed recently in that women are increasingly choosing "nontraditional" fields of study. Examining the American Freshmen: National Norms for Fall 1975 (Astin, King, and Richardson, 1975), we find that more young women planned, on college entry, to pursue traditionally "male" careers than ever before. Among entering college freshmen, 17 percent of the women were planning a career in business, engineering, law, or medicine, a 2 percent increase over 1974 and an 11 percent increase over 1966. In spite of these changes, however, almost one-third of the women are still planning to major and pursue careers in education and health-allied fields.

Among blacks, fewer men and more women expected to have a business major than ~~do~~ did their nonblack counterparts. Conversely, proportionately more black men and fewer black women planned to major in education than did men and women in general.

In 1973-74, women earned 45 percent of the bachelor's degrees but the only fields in which they earned more than half of the degrees were the traditionally "female" fields of home economics, library science, the non-M.D. health professions, foreign languages, and education. In 1973-74, women earned 9 percent of the first professional degrees, 44 percent of the master's degrees, and 19 percent of the doctorates awarded. Again, women are concentrated primarily in traditional fields.

In 1972, women accounted for over half of the 11½ million enrollments in vocational education programs. In 1970, women constituted 63 percent of all secondary, 39 percent of all postsecondary, and 46 percent of all adult vocational enrollments. But here too, women were heavily concentrated in traditionally female fields: When the enrollments for homemaking, home economics, and office skills were combined, they accounted for 84 percent of all women taking vocational courses. Furthermore, in office occupations and health fields, women predominate in relatively low-paying specialities. Women accounted for 49 percent of the enrollments in business data processing systems courses and 29 percent of those in supervisory-administrative management courses.

Moreover, 72 percent of the men enrolled in vocational education were in agricultural, technical, trade, and industrial fields, a sharp contrast to the figure of 6 percent of all women. Nationwide, enrollment in the relatively high-status technical programs was 90.2 percent male and 9.8 percent female.

Students enrolled in proprietary institutions tend to be older, particularly the men of whom about 20 percent are veterans, than community college freshmen. Over 1 in 10 of the proprietary students has had some prior postsecondary educational experience. More than 3 times as many black men and twice as many black women enroll in proprietary institutions as enroll in community colleges.

Although women in the proprietary student body were more likely to have completed high school (99 percent of the women and 96 percent of the men) and to have better high school grades than the men, they were less likely to have had a college-preparatory high school education and had lower degree aspirations (21 percent of the men and 13 percent of the women hope to attain a bachelor's degree).

The most important reasons for enrolling in a proprietary school that are cited by proprietary students are: 1. Special educational programs, and 2. Offer of financial assistance. Almost three times as many women as men are majoring in business, and men are more likely than women to major in technical fields and engineering. Working with people and being helpful to others were more frequently mentioned by women than by men as very important reasons for their career choice. Women were also more likely than men to choose their career because it was a "respected occupation" or because job openings were available.

FOOTNOTES-CHAPTER 2

1. A great deal of the NLS data available to the researchers were not broken down by sex within racial/ethnic categories.

2. This proposition receives some confirmation from the finding that 45 percent of the white students, but only 33 percent of the black students and 30 percent of the Hispanic students, had decided before tenth grade whether or not they would go to college.

3. Although the two populations are not completely comparable, we chose to compare entering college freshmen with black high school seniors because the data were collected at about the same time. Data on entering black freshmen were somewhat dated (1968, 1971), and comparisons with 1974 entering freshmen would have been questionable.

4. First professional degrees include law, dentistry, medicine, theology, veterinary medicine, chiropody or podiatry, optometry, and osteopathy.

5. An examination of the subfields under home economics suggests that the increases for men in graduate study occurred in family relations and child development, and in foods and nutrition.

6. Although the most current available figures are from 1972, the basic outlines are believed to remain unchanged.

7. Postsecondary vocational education programs are those offered by community colleges, technical institutes, and area vocational-technical schools which offer less than a bachelor's degree.

8. Adult education offers basic education, high school equivalency, short-term courses, and training programs not requiring a diploma or degree.

9. Initially 30 institutions were invited to participate. They were identified by their national accrediting associations: the National Association of Trade and Technical Schools and the Association of Independent Schools and Colleges. Each accrediting agency named 15 of their member schools which they considered to be representative.

TABLE 1--Type of educational program of high school seniors, by sex and ethnic groups: United States, 1972
(in percentages)

Type of program	Sex		Ethnic ~~Ethnic~~ category		
	Men	Women	White	Black	Hispanic
Total	100	100	100	100	100
General	35	31	32	33	41
Academic or college preparatory	45	41	45	33	29
Vocational or technical:					
Agricultural occupations	3	--	1	2	3
Business or office occupations	3	21	12	15	11
Distributive education	3	2	2	3	4
Health occupations	--	2	1	2	2
Home economic occupations	--	2	1	4	1
Trade or industrial occupations	11	1	6	9	9

NOTE--Data were collected from a sample of almost 18,000 high school seniors. Actual Ns for each item vary. All columns may not total 100% due to rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W.B. Fetters (1975).

TABLE 2 --Highest level of education 1972 high school seniors plan to attain, by sex and ethnic category: United States, 1972
(in percentages)

Educational level	Sex		Ethnic category		
	Men	Women	White	Black	Hispanic
Total	100	100	100	100	100
Less than high school graduation	2	2	2	4	3
High school graduation	13	20	17	12	12
Vocational, technical, business or trade school	18	19	18	23	23
Junior college	12	14	13	11	18
Four-year college or university	38	36	38	38	34
Graduate or professional school	17	9	13	13	9

NOTE--Columns may not add to 100 due to rounding.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W.B. Fetters (1975).

TABLE 3--Highest level of education high school seniors would like to attain, by sex and ethnic group: United States, 1972
(in percentages)

Educational level	Sex		Ethnic Catetgory		
	Men	Women	White	Black	Hispanic
Total	100	100	100	100	100
Less than high school graduation	1	1	--	2	1
High school graduation	5	7	6	5	5
Vocational, technical, business or trade school	18	21	19	16	19
Junior college	6	10	8	11	11
Four-year college or university	30	29	30	27	36
Graduate or professional school	41	33	37	38	28

NOTE--All columns may not total 100% due to rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of High School Class of 1972, prepared by W.B. Fetters (1975).

TABLE 4--High school grades of seniors, by sex and ethnic group: United States, 1972

(in percentages)

Grade	Sex		Ethnic Category		
	Men	Women	White	Black	Hispanic
Total	100	100	100	100	100
A, A-, or B+	21	36	31	16	19
B, B-, C+	50	48	48	54	51
C, C-, or D+	27	16	20	29	28
D or lower	2	1	1	2	1

NOTE--All columns may not total 100% due to rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W.B. Fetters (1975).

TABLE 5--High school academic grade point average of black high school seniors, by sex: United States, 1971 and 1974
(in percentages)

Academic grade point average	1971		1974	
	Men (N=22,435)	Women (N=32,285)	Men (N=11,601)	Women (N=18,532)
Total	100	100	100	100
A, A-, or B+	13	22	14	23
B, B-, or C+	49	54	54	57
C, C-, or D+	36	24	32	20
D or lower	2	1	1	--

NOTE--All columns may not total 100% due to rounding.

SOURCE: National Scholarship Service and Fund for Negro Students (NSSFNS), A National Profile of Black Youth: The Class of 1971. Data on the class of 1974 provided by NSSFNS in computer summary form.

TABLE 6--Number of semesters completed by 1960 high school seniors, by sex and type of course: United States, 1960
(in percentages)

Number of Semesters	Sciences		Foreign Languages		Social Studies		English		Mathematics	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Total	100	100	100	100	100	100	100	100	100	100
None	3	3	48	41	1	1	1	1	8	14
One	27	41	19	21	11	11	5	3	19	30
Two	28	32	21	21	31	32	20	20	23	29
Three	5	3	2	2	8	8	4	3	6	3
Four	17	13	5	6	22	23	9	8	15	14
Five or more	21	7	6	10	27	26	61	65	30	10

NOTE--Precentages are based on weighted Ns to represent the universe. All columns may not total 100% due to rounding.

SOURCE: American Institutes for Research, Palo Alto, California, Project TALENT: The American High-School Student, prepared by J.C. Flanagan et al (1964).

TABLE 7--High school preparation of 1971 and 1974 black high school seniors, by sex and curricular area: United States, 1971 and 1974 (in percentages)

Curricular area	1971		1974	
	Men (N=22,435)	Women (N=32,285)	Men (N=11,601)	Women (N=18,532)
Four or more years of study by graduation				
English	92	94	91	92
Social studies	45	41	42	36
Foreign languages	12	20	8	12
Natural sciences	25	18	20	15
Mathematics	43	31	36	26
Grade point average of A				
English	7	15	9	19
Social studies	13	17	13	18
Foreign languages	12	22	12	22
Natural sciences	8	10	8	10
Mathematics	8	10	9	10

SOURCES: National Scholarship Service and Fund for Negro Students (NSSFNS), A National Profile of Black Youth: The Class of 1971. Data on the class of 1974 provided by NSSFNS in computer summary form.

TABLE 8--Reasons considered very important for attending college by 1971 black high school seniors, by sex: United States, 1971
(in percentages)

Very important reasons	Men (N=22,435)	Women (N=32,285)
Learn more	86	89
Get a better job	84	83
Fulfill a need for trained black people	81	84
Help my people	68	74
Learn more about myself and others	49	54
Make more money	57	48
Get a degree for my career	44	51
Try to make it	40	39

SOURCE: National Scholarship Service and Fund for Negro Students (NSSFNS), A National Profile of Black Youth: The Class of 1971.

TABLE 9--Reasons high school seniors considered very important in choosing a college, by sex and ethnic group : United States, 1972
(in percentages)

Very important reasons	Sex		Ethnic Category		
	Men	Women	White	Black	Hispanic
Availability of specific courses or curriculums	57	67	62	61	55
Reputation of the college in academic areas	38	48	43	42	36
College expenses (tuition, books, room and board)	37	44	38	56	55
Availability of financial aid such as school loan, scholarship or grant	27	31	24	64	56
Able to live at home and attend the college	21	24	22	20	37
College admissions standards	18	26	20	39	28
Advice of your parents	17	25	20	32	26

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W. B. Fetters (1975).

TABLE 10--Racial background of first-time students in institutions of higher education, by sex: United States, fall 1974
(in percentages)

Racial Background	Total	Men	Women
Total	100	100	100
White	89	88	86
Black	7	7	11
Hispanic	2	4	2
Oriental	1	1	1
American Indian	1	1	1
Other	2	2	2

NOTE--Precentages are based on weighted Ns representing the universe. Columns may not total 100% due to rounding.

SOURCE: American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for fall 1974, prepared by A. W. Astin, et al., (1974)

TABLE 11--Distribution of Women Students and faculty women, by institutional size: United States, 1972 and 1973
(in percentages)

Total Student Enrollment	Students	Faculty
1 - 500	51	39
501 - 1,000	49	33
1,001 - 1,500	44	28
1,501 - 2,500	41	26
2,501 - 3,500	39	26
3,501 - 5,000	39	27
5,001 - 10,000	40	24
10,001 - 15,000	39	20
15,001 - 20,000	41	19
20,001 or more	40	19

SOURCE: An analysis using Higher Education General Institutional Surveys data for fiscal 1972 and 1973, conducted by Higher Education Research Insititute staff (1975).

TABLE 12--Distribution of women students and women faculty, by selectivity (ACT mean scores) of institution: United States, 1972 and 1973 (in percentages)

Mean ACT score of institution's student body	Women students	Women faculty
Total	45	30
5 (low)	49	33
6	54	30
7	57	27
8	50	37
9	56	42
10	50	39
11	51	38
12	46	44
13	51	39
14	49	38
15	52	42
16	43	37
17	46	36
18	44	32
19	41	31
20	49	30
21	50	31
22	50	29
23	49	27
24	50	26
25	53	27
26	53	26
27	48	20
28	45	17
29	31	13
30	43	21
31	24	7
35 (high)	30	18

SOURCE: An analysis using Higher Education General Institutional Surveys data for fiscal 1972 and 1973, conducted by Higher Education Research Institute staff (1975).

TABLE 13--Distribution of women students and women faculty, by selectivity index: United States, 1972 and 1973
(in percentages)

ACT Code	Women students	Women faculty
1 (low)	46	35
2	48	30
3	50	30
4	49	27
5	52	27
6	51	22
7 (high)	38	15

NOTE-- The selectivity index is constructed through collapsing mean ACT scores of the institution's student body (see table 12) into seven categories.

SOURCE: An analysis using Higher Education General Institutional Surveys data for fiscal 1972 and 1973, conducted by Higher Education Research Institute staff (1975).

TABLE 14--Distribution of women students and full-time faculty women, by institutional affluence: United States, 1972 and 1973 (in percentages)

Affluence (per ~~stdent~~ student education and general expenditures)	Women Students	Women faculty
Total	45	30
$1 - 500	49	52
$501 - 1,000	38	33
$1,001 - 1,500	40	31
$1,501 - 2,000	45	29
$2,001 - 2,500	48	29
$2,501 - 3,000	55	32
$3,001 - 4,000	52	28
$4,001 - 5,000	48	24
$5,001 or more	37	18

SOURCE: An analysis using Higher Education General Institutional Surveys data for fiscal 1972 and 1973, conducted by the Higher Education Research Institute Staff (1975).

TABLE 15--Distribution of women students and women faculty, by type of institution: United States, 1972 and 1973
(in percentages)

Type of institution	Women students	Women faculty
Total	45	30
Public university		
Low selectivity	39	21
Medium selectivity	38	15
High selectivity	37	14
Private university		
Low selectivity	39	19
Medium selectivity	41	23
High selectivity	29	14
Public 4-year college		
Low selectivity	45	25
High selectivity	48	22
Private 4-year college		
Low selectivity	49	29
High selectivity	51	18
Catholic 4-year institution		
Low selectivity	58	46
High selectivity	74	44
Other sectarian 4-year institution		
Low selectivity	49	27
High selectivity	45	24
2-year college		
Public (enrollment 250-500)	36	31
Private (enrollment 100-250)	60	48

NOTE--Selectivity measures are based on National Merit Scholarship Qualitying Test median standardized scores reported in the same scale as SAT scores. Low selectivity is 549 or below, medium selectivity is 550-599, and high selectivity is 600 or above.

SOURCE: An analysis using Higher Education General Institutional Surveys data for fiscal 1972 and 1973, conducted by Higher Education Research Institute staff (1975).

TABLE 16--Distribution of women students and women faculty, by institutional faculty salary levels: United States, 1972 and 1973
(in percentages)

Salary levels (institutional median faculty salary)	Women students	Women faculty
$9,000 - 10,999	50	41
$11,000 - 12,999	47	32
$13,000 - 14,999	47	25
$15,000 - 16,999	43	21
$17,000 - 18,999	39	21
$19,000 - 20,999	36	22
$21,000 - 22,000	34	19

NOTE--Salary levels represent median faculty salary developed and reported by American Association of University Professors.

SOURCE: An analysis using Higher Education general institutional surveys data for fiscal 1972 and 1973, conducted by Higher Education Research Institute Staff (1975).

TABLE 17--Women as percentage of total enrollment in selected technical institutions of higher education: United States, fall 1974

Institution	Total enrollment	Women Percent
Washington Technical Institute	4,772	35%
Virginia Polytechnic Institute and State University	19,897	33
Montana College of Minerals, Science, and Technology	848	32
Oregon Technical Institute	2,168	29
New Mexico Institute of Mining and Technology	861	28
Rice University	3,525	28
Philadelphia College of Textiles and Science	1,965	27
South Dakota School of Mines and Technology	1,489	21
Delaware Valley College of Science and Agriculture	1,357	19
Massachusetts Institute of Technology	8,040	14
Lowell Technical Institute	7,532	14
Florida Institute of Technology	2,754	13
Colorado School of Mines	1,934	13
Aerospace Institute	87	13
General Motors Institute	3,039	10
California Institute of Technology	1,544	10
Georgia Tech	8,205	10
Rensselaer Poly Institute	4,764	9
West Coast University, Main Campus	981	8
Stevens	2,004	8
Clarkson	2,622	8
Worcester Polytech	2,684	7
Indiana Institute of Technology	354	5
Lawrence Institute of Technology	4,206	5
DeVry Institute of Technology	3,428	4
Newark College of Engineering	5,293	4
Capitol Institute of Technology, Kensington	252	2
Northrup Institute of Technology	1,289	2
Embry-Riddle Aeronautical University	1,559	2
Ohio Institute of Technology	2,867	1
Bridgeport Engineering Institute	366	1
Milwaukee School of Engineering	2,200	1
West Coast University, Orange County Center	398	1
Chicago Tech College	594	1
Rose-Hulman Institute of Technology	1,038	0
Wentworth College of Technology	204	0

SOURCE: U.S. Department of Health, Education, and Welfare, Data Management Center, Opening Fall Enrollment, 1974: Preliminary Data-Aggregate, United States.

TABLE 18--Probable major field of study of college freshmen, by sex: United States, fall 1970 and fall 1974
(in percentages)

Field	1970		1974	
	Men	Women	Men	Women
Total	100	100	100	100
Agriculture (including forestry)	4	--	6	2
Biological sciences	4	3	8	6
Business	20	12	20	16
Education	5	19	5	16
Engineering	16	--	12	1
English	1	5	1	2
Fine Arts	8	10	7	7
Health professions	2	14	2	13
History, political science	6	4	5	3
Humanities (other)	2	5	2	3
Mathematics and Statistics	3	4	2	1
Physical sciences	3	1	4	1
Pre-professional	11	3	(not available)	
Social sciences	6	13	4	9
Other technical fields	5	2	9	7
Other nontechnical fields	1	4	10	9
Undecided	2	2	4	5

NOTE--Percentages are based on weighted Ns representing the universe. All columns may not total 100% due to rounding.

SOURCE: American Council on Education, National Norms for Entering College Freshmen--Fall 1970, prepared by the staff of the Office of Research (1970). American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for Fall, 1974, prepared by A.W. Astin, et al., (1974).

TABLE 19--Probable field of college major of black high school seniors, by sex: United States, 1971 and 1974
(in percentages)

Field	1971		1974	
	Men	Women	Men	Women
Total	100	100	100	100
Agriculture	1	--	1	--
Biological Sciences	3	2	3	2
Business	17	23	16	21
Education	9	12	8	8
Engineering	15	1	14	2
English	1	3	1	1
Fine Arts	12	8	12	8
Health Professional (Non-M.D.)	4	17	4	20
History and Political Science	7	4	5	2
Other Humanities	1	2	3	2
Mathematics and Statistics	3	3	2	2
Physical Sciences	2	1	1	1
Pre-professional	10	5	13	10
Social Sciences	8	15	7	13
Liberal Arts	(not available)		2	3
Other Technical Fields	6	1	7	2
Other Non-Technical Fields	1	4	1	3

NOTE--All columns may not total 100% due to rounding.

SOURCE: National Scholarship Service and Fund for Negro Students (NSSFNS), A National Profile of Black Youth: The Class of 1971. Data on the class of 1974 provided by NSSFNS in computer summary from.

TABLE 20 --Career aspirations of entering college freshman: Trends over time, by sex: United States, 1966, 1968, 1970, 1972 and 1974 (in percentages)

	1966		1968		1970		1972		1974		% of gains and losses 1966 to 1974	
Careers	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Artist (incl. performer)	5	9	4	8	5	8	5	8	5	7	0	-2
Businessman	19	3	18	3	17	4	15	5	18	9	-1	+6
Clergyman	1	.8	1	.2	1	.2	1	.2	1	.4	0	-.4
College Professor	2	2	1	.9	1	.9	.7	.6	.7	.8	-1.3	-1.2
Doctor (MD)	7	2	6	1	6	2	8	3	7	4	0	+2
Educator (secondary)	11	18	12	18	9	14	5	8	3	5	-8	-12
Elementary Teacher	18	16	1	19	.9	17	.7	11	.6	7	-.2	-9
Engineer	16	.2	15	.2	13	.4	10	.3	9	.8	-7	+.6
Farmer/ Forester	3	.2	3	.1	3	.4	5	.7	6	1	+3	+.8
Health (non-MD)[1]	3	7	3	6	3	6	5	10	6	13	+3	+6
Lawyer	7	.7	6	.6	6	1	7	2	5	2	-2	+1.3
Nurse	.1	5	.1	6	.1	9	.2	10	.3	10	+.2	+5
Research Scientist	5	2	4	2	4	2	3	2	3	1	-2	-1
Other[2]	16	31	17	24	19	25	21	25	25	27	+9	-4
Undecided	5	4	11	11	12	12	13	14	12	13	+7	+9

1. Health: Dietician, Home Economist, Lab Technician, Optometrist, Pharmacist Veterinarian

2. Other: Architect, Business (clerical), Psychologist, Programmer, Housewife, Policeman, Social Worker, Skilled other

NOTE--Percentages are based on weighted Ns representing the universe.

SOURCES: (1) American Council of Education, National Norms for Entering College Freshmen--Fall 1966, prepared by A.W. Astin, R.J. Panos and J.A. Creager (1967). (2) American Council of Education, National Norms for Entering College Freshmen--Fall 1968, prepared by J.A. Creager, et al., (1968). (3) American Council on Education, The American Freshman: National Norms for Fall 1970, prepared by the staff of the Office of Research (1970). (4) American Council on Education, The American Freshman: National Norms for Fall 1972, prepared by the staff of the Office of Research (1972). (5) American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for Fall 1974, prepared by A.W. Astin, et al., 1974.

TABLE 21--Probable career choice of black high school seniors, by sex: United States, 1971 and 1974
(in percentages)

Careers	1971		1974	
	Men N=22,435	Women N=32,285	Men N=11,601	Women N=18,532
Artist (inc. performer)	8	6	12	9
Businessman	14	7	17	18
Clergyman	1	-	-	-
Doctor (medical)	6	4	7	7
Educator (all levels, includes counseling, teaching, & admin.)	12	22	8	11
Engineer	13	1	9	1
Farmer or forester	1	1	1	1
Health professional (non-M.D.)	3	7	5	10
Lawyer	7	3	7	4
Nurse	-	11	1	13
Scientist	3	1	9	8
Social or community worker	(not available)		3	6
Other career	33	39	20	12

SOURCE: National Scholarship Service and Fund for Negro Students (NSSFNS), A National Profile of Black Youth: The Class of 1971. Data on the class of 1974 provided by NSSFNS in computer summary form.

TABLE 22 --Career aspirations of entering college freshmen women, by age group: United States, 1974

(in percentages)

Careers	Age[1] 19 or under N=799,758	 31 or above N=3,854
Artist (performer)	7	2
Businessman	9	11
Clergy or religious worker	--	--
Educator (college teacher)	1	1
Doctor (M.D. or D.D.S.)	4	1
Educator (secondary)	5	3
Educator (elementary)	7	5
Engineer	1	--
Farmer or forester	1	--
Health professional (non-M.D.)[2]	13	7
Lawyer	2	1
Nurse	10	29
Research scientist	1	1
Other occupation[3]	27	32
Undecided	13	7

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[1] 96 percent of the freshmen women are 19 or under.

[2] This category includes optometrist; pharmacist or pharmacologist; psychologist (clinician or therapist only); technician or technologist (health); therapist (physical, occupational, speech); veterinarian; home economist or dietician.

[3] Other includes secretary, clerical occupations, computer programer, homemaker (full-time), etc.

SOURCE: American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for Fall 1974, prepared by A.W. Astin, et al., (1974).

TABLE 23--Total number of bachelor's, master's, and doctor's degrees conferred by institutions of higher education, by field of study and percent of total received by women: United States, 1973-1974

Major field of study	Bachelor's Total	Bachelor's Percent Women	Master's Total	Master's Percent Women	Doctor's Total	Doctor's Percent Women
Agriculture and Natural Resources	16,303	10	2,939	10	930	4
Architecture and Environment Design	7,840	15	2,733	18	69	6
Area Studies	3,203	54	1,142	39	163	28
Biological Sciences	46,856	31	6,581	31	3,440	20
Business and Management	133,905	13	32,820	7	983	5
Communications	17,096	38	2,642	37	175	17
Computer and Information Sciences	4,757	16	2,276	13	198	5
Education	186,623	73	112,739	60	7,293	27
Engineering	50,693	2	15,385	2	3,312	2
Fine and Applied Arts	40,016	60	8,001	46	585	25
Foreign Languages	19,479	76	3,991	66	923	44
Health Professions	41,869	77	9,741	60	578	23
Home Economics	15,433	96	1,869	91	136	66
Law	494	11	1,181	7	27	4
Letters	65,325	58	12,165	57	2,633	32
Library Science	1,164	93	8,185	78	60	40
Mathematics	21,813	41	4,840	31	1,031	10
Physical Sciences	21,287	17	6,087	15	3,631	7
Psychology	52,256	51	6,616	40	2,339	30
Public Affairs and Services	24,264	44	12,694	45	230	22
Social Sciences	152,203	37	17,297	29	4,126	18
Theology	4,231	28	2,898	27	768	3
Interdisciplinary Studies	24,938	37	3,437	46	196	26

SOURCE: U.S. Department of Health, Education and Welfare, National Center of Education Statistics, Unpublished data from the Survey of Degrees and other formal awards conferred: 1973-74.

TABLE 24--Distribution of those enrolled in vocational education, by sex and field of study: United States, 1972
(in percentages)

Field of study	Men	Women
Total	100	100
Agriculture	19	1
Distributive	8	5
Health	1	5
Homemaking and Consumer	6	50
Gainful home economics	1	4
Office	12	31
Technical	7	1
Trade and Industrial	50	5

NOTE--Columns may not total 100% due to rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, Secretary's Advisory Committee on the Rights and Responsibilities of Women, Vocational Preparation of Women, by J.M. Steiger and S. Cooper (1975).

TABLE 25--Enrollment total and percentage female enrollment in vocational education, by field of study: United States, 1972

Field of study	Total enrollment	Percent Female
Agiculture	896,460	5
Distributive	640,423	45
Health	336,652	85
Homemaking and Consumer	3,165,732	92
Gainful home economics	279,966	86
Office	2,351,878	76
Technical	337,069	10
Trade and Industrial	2,397,968	12

SOURCE: U.S. Department of Health, Education, and Welfare, Secretary's Advisory Committee on the Rights and Responsibilities of Women, Vocational Preparation of Women, by J.M. Steiger and S. Cooper (1975).

TABLE 26--1972 and projected 1977 distribution of enrollment in vocational education, by sex and field of study: United States, 1972
(in percentages)

Field of study	1972 Men	1977 Men	1972 Women	1977 Women
Agriculture	95	92	5	8
Distributive	55	54	45	46
Health	15	17	85	83
Home economics	8	10	92	90
Office	24	25	76	75
Technical	90	91	10	9
Trade and Industrial	88	87	12	13

NOTE--These percentages include unduplicated enrollments and enrollments below grade 9.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, Division of Vocational and Technical Education, Trends in Vocational Education Fiscal Year 1972 (1973). Also in Northern Arizona University, Project Baseline Supplemental Report, Women in Vocational Education, by M. Steele, (1974).

CHAPTER 3

THE IMPACT OF PERSONAL AND BACKGROUND VARIABLES ON ACCESS

Before one can identify the discriminatory practices, either individual or institutional, that result in differential educational access and attainment, one must examine the various processes and early experiences that shape a person and thus in part determine his/her educational decisions, progress, and ultimate attainment. People themselves are in large part responsible for what happens to them, in that they have come to perceive themselves in certain ways. They are aware of certain alternatives, consider certain options, and take certain actions that may lead to certain outcomes. For example, as we have seen, the underrepresentation of women in elite institutions of higher education may be attributable to their failure to apply to these institutions, which in turn may be attributable to their perception that they would not do well in such a setting; in this case, their underrepresentation can hardly be blamed on discriminatory institutional policies. Nonetheless, discrimination may be operating in the larger society to stifle their opportunities and limit their options, a discrimination that makes itself felt early and in subtle ways. One's behavior is molded by a variety of factors, and it is these factors--including socialization, socioeconomic status, aptitutdes, ethnic/racial background, personal characteristics, self-image and expectations, and motivation--that we examine in this chapter.

EFFECTS OF SOCIALIZATION

The Dictionary of Education defines the term socialization as "the process of bringing the individual, particularly the child, to understand and accept the customs, standards, traditions, and culture of the group of which he is a member and to cooperate actively with that group." In our own society (and probably in most others), the socialization process involves, among other things, the inculcation of sex norms: traits, attitudes, and behaviors that are regarded as appropriate to each of the sexes. Because children are rewarded when they live up to these norms and punished when they violate them, they come quickly to internalize these social and cultural standards. So pervasive and subtle is sex-role socialization that most people come to regard this culturally determined behavior as "natural," "inborn," "inherent." It may take conscious effort to become aware of the sex-role stereotypes that govern much of our behavior. Nonetheless, such awareness is necessary if we are to recognize how such stereotypes may cause a person to limit, or cause others to limit, his/her consideration of alternatives solely on the basis of gender (Association for Measurement and Evaluation in Guidance (AMEG) Commission, 1973). If early socialization does indeed limit options, one must understand its implications for the development of either sex or of both sexes through adolescence and adulthood.

The first question to be answered is: Do the sexes differ psychologically? Maccoby and Jacklin (1974) ask, for instance, whether males and females differ in their emotional reactions to people and events, in the vigor with which they attack life's problems, in their potential for acquiring the knowledge and skills necessary for a variety of occupations. If so, then consideration focuses on the social acceptability of sex-typed behaviors, "those [behaviors] that are less expected and sanctioned [when exhibited] by one sex, and in contrast are considered appropriate when manifested by the other" (Mischel, 1970, p. 4), and the advantages or limitations of sex-typed behavior for the individual. If psychological sex differences do exist, how do they come about, are they inevitable [behavioral tendencies] or products of arbitrary social stereotypes and do they impose limitations or expectations for the lives of each sex? (Maccoby & Jacklin, 1974).

In their critical summary of the empirical evidence relating to psychological sex differences, Maccoby and Jacklin concluded that, while some sex differences may be taken as established facts, others are sheer myth, and still others require additional evidence before a verdict about their reality can be reached.

In the category of established fact are sex differences in verbal, visual-spatial, and mathematical abilities and in aggression. Boys and girls tend to be roughly equal in these traits until early adolescence; at that point girls begin to surpass boys in verbal ability and boys to surpass girls in visual-spatial and mathematical abilities. As early as age two, boys tend to be more aggressive than girls, a difference that holds true cross-culturally.

In the category of myth, Maccoby and Jacklin give the following example: "Beginning in infancy, the two sexes show a remarkable degree of similarity in the basic intellectual process of perception, learning and memory. . . . The allegation that girls learn best by rote processes, boys by some more advanced form of reasoning is clearly not supported by evidence" (pp. 61-62). Other unfounded beliefs about sex differences are that girls are more "social" and more "suggestible" than boys, that girls have lower self-esteem and lack achievement motivation, that boys are more analytical, that girls are more affected by heredity and boys by environment, and that girls are auditory and boys visual.

It is true that girls do regard themselves as socially competent and that boys more often see themselves as strong, powerful, dominant and "potent." The achievement motivation in boys is more responsive to competitive arousal, but not necessarily stronger than in girls. During college (but not earlier or later) men have a greater sense of control over their own fate and greater confidence in their ability to perform a variety of college tasks. Research on sex differences in tactile sensitivity, fear, timidity and anxiety, activity, competitiveness, dominance, compliance, and nurturance has yielded inconsistent results, and further exploration is required.

Unquestionably, perceptions of sex differences, whether real or mythical, become an important part of the process of socialization. Under pressure from parents, teachers, and peers, children grow up with certain expectations about aspirations for adult roles. Are children's aspirations restricted by the cultural sex stereotypes they learn so early? In their study of kindergarten and sixth-grade students, Scholossberg and Goodman (1972) found that even the kindergarteners could identify traditionally male and female occupations; moreover, the occupations they saw for themselves fell within the stereotypes. A study of fifth-grade children had similar results: Children's perceptions of occupations and personality traits were sex-stereotyped. The girls were less willing to reverse traditional sex-tied jobs than were the boys, but were more willing to see occupations open to either sex. Further, the girls had varied career aspirations: Only 6 percent said they wanted simply to be a mother or housewife. There were, however, marked discrepancies between their stated career goals and the way they saw themselves spending an actual day in the future. In the latter case, they focused on marriage and family activities, while boys focused on details of career and job (Iglitzen, 1973). It would seem that at this age a girl may state plans for a career, but her socialization has not provided her with a picture of what is involved in the role of career woman, so instead she focuses on being a wife and mother, the predominant female roles as she has experienced them.

Thus, through socialization, children are often reared to view the parameters of the man's role as different from those of the woman's role. "Children soon do categorize themselves as males and females, and . . . their sex [identity] in turn influences the value and meaning of a multitude of events for them" (Mischel, 1970, p. 58). In their review of differential socialization, Maccoby and Jacklin (1974) commented on the remarkable uniformity of parental socializing behaviors: Parents do tend to encourage their children to develop sex-typed interests. Parents also tend to believe that children of each sex have a different set of "natural" assets and liabilities. Since people interpret new experiences on the basis of previous learning, differential socialization will affect not only the choices they make but also the alternatives they see as available: "As a result of their different socialization histories the sexes come to differ in the meaning and value that stimuli have for them and, therefore, also in their subsequent preferences and choices" (Mischel, 1970, p. 59). These experiences and perceptions also manifest themselves in different kinds of achievement for the two sexes, different levels of self-esteem, different motives, and different attitudes. Thus, at the secondary level, when decisions are made about postsecondary plans, students are already products of an intensive socializing campaign that has taught them which behaviors, values, and goals are appropriate for their sex.

EFFECTS OF SOCIOECONOMIC STATUS, ABILITY, AND RACE[1]

Studies of the determinants of college entry and progress have found academic ability and school performance of prime importance; sex and socioeconomic status (SES) play significant roles as well, the latter usually being defined in terms of parental income, occupation, and education. SES, however, is a confounding variable in that it correlates with achievement, personal traits and characteristics, interests, motivations, and values--all important influences in educational development.

The early analysis by Coleman and his associates (1966) and the later work of Jencks and his associates (1972) highlighted the differences in achievement among students of different SES and racial backgrounds. Sewell and his associates, in their intensive longitudinal study of Wisconsin high school students, provided critical information on the continuing role of SES and aptitudes in educational progress and achievement beyond high school (Sewell and Hauser, 1975). As early as 1957, Sewell examined the importance of social status to educational and occupational aspirations. In 1967, Sewell and Shah highlighted the differential impact of SES and of ability on educational and occupational development and status. Although both aptitude and past achievement affected postsecondary access and achievement, SES apparently exerted a stronger influence on girls than on boys, particularly at the lower levels: Girls of low SES were less likely to go on to college than were boys with similar aptitudes from the same low SES levels. Half of the boys but only one-fourth of the girls in the highest ability but lowest SES quartile eventually attended college.

Werts (1968) reported differential SES effects for a highly able group (National Merit Scholars) of high school boys and girls. Bright girls from lower-class homes were significantly less likely to go to college than were boys of similar backgrounds and abilities.

Folger, Astin, and Bayer (1970), in a study using Project TALENT data, observed differences in the effect of SES on the postsecondary plans of women and men. Consistent with Sewell and Shah's findings, low SES had a particularly adverse effect on the college attendance of girls. Among high ability-low SES groups, only 52 percent of the girls attended college, compared with 69 percent of the boys. Assessing additional variables that might affect access to postsecondary education, the same study also indicated that motivation, as reflected in plans to attend college, and encouragement from parents and peers, were important influences, independent of SES. Ability was equally significant for both sexes as a determinant of college entry but more important for men as a determinant of progress through college. For women, however, marital and family status assumed an importance equal to ability as they progressed through the educational system.

Using the same data source, Project TALENT, Brown (1974) found that the timing of plans to pursue postsecondary education signficiantly affected educational outcomes: Students who planned as early as the ninth grade to go on to college were more likely to do so, whatever their ability and SES. Moreover, the effects of making early plans were stronger for girls than for boys. Brown also observed that, whereas highly achieving girls were as likely as highly achieving boys to pursue postsecondary education, girls of low SES, or low ability or poor grades, or both, were less likely to enroll in and pursue postsecondary education than were similarly disadvantaged boys (Table 27).

In addition, Brown found that both men and women were more likely to complete four or more years of college within five years if they (a) had achieved in high school;[2] (b) came from high socioeconomic backgrounds; (c) had taken a college-preparatory program in high school; and (d) had plans in high school to complete at least four years of college.

Even though girls and boys did not differ significantly in achievement or SES, by the ninth grade significantly fewer girls were taking college-preparatory programs or planning to attend college. For instance, in 1960 only three in ten ninth-grade girls were in college-preparatory programs, compared with four in ten boys; by twelfth grade, only 31 percent of the girls, but 44 percent of the boys, were in college-preparatory programs. Further, only 32 percent of the ninth-grade girls but 43 percent of the ninth-grade boys planned to complete college; by twelfth grade, 28 percent of the girls and 46 percent of the boys planned on four years of college or more.

Brown concluded that girls whose high school achievement was poor suffered the greatest disadvantage in access to postsecondary education. The analysis makes it clear that it is important for girls to make early plans to attend college and enroll in the college-preparatory track as early as the ninth grade.

Another study of the factors affecting college attendance found that high school rank was an important determinant for both men and women (Christensen, Melder, and Weisbrod, 1972). Moreover, though parents' income and education were both important variables in predicting a man's college attendance, parental income had no significant influence on the college attendance of a woman, although father's occupation and parents' education did. Finally, having a college nearby significantly increased a woman's chances of college attendance but had no effect on a man's. The authors concluded that if a man can pay the matriculation fees and meet the admissions requirements, he is likely to attend college. The probability that a woman will attend college, however, is profoundly affected by parental and community influences, as reflected in parents' education and values and in the availability of a college close to home.

Investigating the independent effect of race, as well as the interaction of race with ability and SES, Watley (1971) reported sex differences in the educational aspirations of highly able black high school students. In general, black men had higher degree aspirations than nonblack men. But black men from high-income families more frequently aspired to the doctorate than those from lower-income families, whereas the doctoral plans of able black women were not related to parental income. Black women from families with high incomes were more likely to plan for a doctorate if they made good grades in high school, and black women from low-income families were more likely to plan for a doctorate if they made high test scores.

As we have seen, the program that a student takes and the plans he/she makes in high school are related to whether that person goes on to postsecondary education (Brown, 1974). But what determines the student's program and plans? Using NLS data (1972), we sought to pinpoint more precisely the roles that sex, race, and SES (as measured by father's education) play. With respect to the type of program that students took in high school, we found small sex differences: 40.5 percent of the girls and 45.3 percent of the boys reported they were in an academic or college-preparatory program. Racial/ethnic differences were greater: 45.4 percent of the white students, but only 32.9 percent of the black students and 29.3 percent of the Hispanic students, took college-preparatory programs in high school. SES, as measured by father's education, had an even stronger relation: 30 percent of the students whose fathers had less than a high school diploma, compared with 68.1 percent of those whose fathers had college degrees, were in college-preparatory programs. One cannot, of course, make causal inferences from these data, but they certainly suggest that women, minority-group members, and lower-class students are disadvantaged with respect to educational access.

To see how these background factors are related to the plans that students make in high school, we looked at several kinds of educational plans. The first was the student's degree aspirations. NLS had asked students to indicate the highest level of education they were planning to pursue. About one in five girls, compared with 13.4 percent of the boys, said they planned no further education past high school graduation. The proportions planning to get a college education were about the same: 38 percent of the boys and 36 percent of the girls. But only 9 percent of the girls, compared with 17 percent of the boys, planned to attend graduate or professional school. Minority students had somewhat higher aspirations than whites: thus, only 12 percent of the blacks and Hispanics, but 17.4 percent of the whites, said they planned to go no further than high school. Again, father's education--our index of SES--made a considerable difference: Only 5 percent of the students whose fathers were college-educated said they had no further plans, compared with 28 percent of those whose fathers had less than a high school education.

Taking just those students in college-preparatory programs, we looked at a second kind of educational plan: the type of institution the student planned to attend, two-year or four-year college. Students with college-educated fathers were more likely to plan to attend a four-year than a two-year college (Table 28).[3] For instance, 82 percent of the black women and 84 percent of the white women with college-educated fathers planned to attend a four-year college, compared with 76 percent of the black women and 70 percent of the white women whose fathers had less than a high school education. Similarly, 96 percent of the black men and 85 percent of the white men with college-educated fathers planned to go to a four-year college, compared with 88 percent of the black men and 68 percent of the white men whose fathers had less than a high school education.[4]

The third type of educational plan we looked at was for vocational-technical training versus collegiate education (Table 29). Black students of both sexes whose father did not graduate from high school were more likely than were their white counterparts to plan on a collegiate rather than a vocational education: 58 percent of the black men and 54 percent of the black women planned to go on to college, whereas 15 percent of the black men and 14 percent of the black women planned to go into vocational-technical training. If the father was a college graduate, the gap between type of postsecondary education planned widened: That is, even more black students planned on collegiate education, and even fewer on vocational-technical education. In general, however, larger proportions of white students than black students with highly educated fathers planned on a collegiate education.

Data abstracted from Project TALENT enabled us to examine further how sex, racial/ethnic background, SES, and ability are related to completion rates both in collegiate and vocational-technical training. For instance, white men of low SES and high ability were more likely than were their female counterparts to complete their training, whether collegiate or noncollegiate, this finding is further evidence of the adverse effect that low socioeconomic status has on women. But this was not the case with minority women who took noncollegiate programs: Nonwhite women of low SES and high ability were more likely to complete vocational-technical training than were their male counterparts (Table 30). On the other hand, nonwhite men of high SES and low aptitude were more likely to complete their postsecondary training (except in the two-year colleges) than were their female counterparts.

In summary, the importance of SES in facilitating or hindering educational access and attainment should not be underestimated. Given two people of equally high academic ability, the one from a lower socioeconomic background is less likely to attend a four-year institution, and this effect is particularly marked among women, whatever their race. SES seems to work to the advantage of men at the other end of the scale as well: Among students of low aptitude but high SES, the women (especially nonwhite women) were less likely to go to a four-year college than were the men. Finally, students of high SES, independent of ability, have high completion rates within each type of educational setting; noncollegiate institution, two year college, four-year college).

SELF-IMAGE AND EXPECTATIONS OF WOMEN

A woman's participation in postsecondary education--collegiate and noncollegiate--is determined not only by existing opportunities but also by her aspirations and by the expectations she holds about the role of education in her development and in her preparation for adulthood. Her aspirations and expectations are, in turn, related to her self-concept: Does she see herself primarily as a wife and mother, and thus in no need of education beyond the high school level? Or does she see herself as a high-level career woman, working at a satisfying and productive job, and thus in need of the best education she can get?

In this section we examine aspirations, expectations, and aspects of the self as they relate to women's educational interests and achievements.

Self-concept, as a mediating variable in achievement, has received much attention in the past few years as investigators have sought to understand why women's aspirations and achievements are generally lower than men's. Several recent studies (Broverman et al., 1970; Rosenkrantz et al., Goldberg, 1968) have demonstrated that feminine traits and products are given a lower valuation than masculine traits and products. As a result of these sex-role stereotypes, one would expect women to have low or negative views of their own worth.

It has been found that women set lower aspirations and goals for themselves than men do (Coates, 1972) and that the views and expectations of others influence the young woman's orientation toward academic endeavors (Crandall et al., 1964; Brindley, 1968; Entwisle & Greenberger, 1972). To explore more fully the differences in the self-images and expectations of men and of women, we drew of two sets of data: (1) the NLS data on high school students, which provides some information about self-perceptions and life goals, and (2) CIRP data, which provides similar information on college students.

Self-Esteem Among High School and College Students

High school students surveyed in the NLS responded to a number of items relating to self-image. Table 31 lists the percentages of students indicating that they "strongly agreed" or "agreed" with a number of statements reflecting views about themselves. Even though more boys (88 percent) than girls (84 percent) took a positive attitude toward themselves, more girls were satisfied with themselves (77 percent, compared with 74 percent of the boys). More boys (94 percent) than girls (90 percent) agreed with the statement "I am able to do things as well as most other people." Despite these small sex differences, young people generally saw themselves in favorable terms.

The self-images of college men and women showed both similarities and differences. Table 32 lists the percentages of college students who rated themselves above average for each on a list of 22 traits. Slightly more than half of both sexes saw themselves as high on drive to achieve, and the proportions of students who considered themselves above average on this trait increased over time. The only other changes over time were that, in the most recent survey, larger proportions of both sexes rated themselves high on understanding of others, intellectual self-confidence, and social self-confidence. On other traits, there were no noticeable changes in either direction; apparently , over the last ten years, entering college students have tended to perceive themselves in much the same way from year to year.

Women were more likely to rate themselves high on artistic ability, cheerfulness, understanding of others, writing ability, and sensitivity to criticism (traits consistent with femininity), whereas men were more likely to rate themselves high on achievement-oriented qualities: for example, intellectual self-confidence, originality, mathematical ability, public speaking ability, and leadership. Surprisingly, on some traits that are traditionally regarded as feminine--for example, popularity in general, popularity with the opposite sex, physical attractiveness, and social self-confidence--fewer college women than college men rated themselves above average. One wonders if women actually believe themselves to be less capable and worthy, or if their socialization encourages modesty and thus prevents them from rating themselves high on academic and leadership qualities because that would be "unfeminine." The literature on self-esteem is confusing and contradictory on such points.

Examining the self-ratings of black students (Table 33), we find that blacks tended to give themselves lower self-ratings than whites did on academic ability, mathematical ability, mechanical ability, and, to some extent, originality. Ratings of drive to achieve and intellectual self-confidence were comparable. Blacks were, however, more inclined than whites to see themselves as popular in general and as popular with the opposite sex.

Fewer black college women than white college women saw themselves as outstanding in artistic ability and mathematical ability; but more rated themselves high on drive to achieve, popularity in general, popularity with the opposite sex, intellectual self-confidence, and social self-confidence. Black women were more inclined than black men to rate themselves high on drive to achieve but less inclined to feel they were above average on leadership, mathematical ability, mechanical ability, popularity with the opposite sex, and intellectual or social self-confidence.

As Table 34 indicates, women over age 31 enrolled in college tended to rate themselves lower than did younger women on a number of academic and achievement-oriented variables--e.g., academic ability, mathematical ability, writing ability, and originality--perhaps because they had been away from school for a time and thus were less confident of their ability to perform.

From the comparisons of men and women on self-ratings college women in general have a less favorable view of their own academic and intellectual abilities than college men do.

Some studies suggest that women have less self-esteem than men do.

For instance, Berger (1968), in a factorial study of self-esteem, concluded that the self-evaluation of women is partially contingent on their degree of certainty that other people like them. It would seem that a woman's self-esteem is shaped more by the messages she receives from important others than by any testing of her own competencies. Although one would hypothesize that self-esteem increases as a result of successful competency testing, if the competencies tested are perceived as "unfeminine" and therefore disapproved by others, the impact on self-evaluation tends to be negative.

After examining 30 studies in an attempt to assess accurately sex differences in measures of self-esteem, Maccoby and Jacklin concluded: "There is no overall difference between the sexes in self-esteem, but there is a 'male cluster' among college students made up of greater self-confidence when undertaking new tasks, and a greater sense of potency, specifically including the feeling that one is in a position to determine the outcomes of sequences of events that one participates in" Maccoby and Jacklin, 1974 (p. 158).

The effects of these self-perceptions on motivation, achievement, persistence, and career development and commitment remain undetermined. Nor is much known about how different postsecondary environments and experiences promote or impede the growth of self-confidence and self-esteem. Since a positive overall self-image as well as an accurate sense of one's intellectual competencies and leadership qualities are probably important determinants of success in the world of work, more needs to be known about how they develop.

Expectations and Objectives of High School and College Students

Closely allied to self-ratings are life goals, since they reflect the expectations, values, and special motivations that influence educational attainment and later occupational success.

Comparing the life goals of high school boys and girls (Table 35), we find that more boys considered becoming successful in their work an important objective, whereas more girls felt that finding the right mate and having a family were important objectives. Making lots of money and holding a leadership position were given higher priority by boys than by girls. Girls valued correcting economic and social inequities. These differences in values undoubtedly lead to differences in occupational choice and in the educational preparation that enables people to pursue those choices.

Black high school students were asked to indicate "the person they would most like to be."[5] As Table 36 indicates, girls were more likely to cite educators and creative or performing artists as the people they admired most; boys named businessmen, athletes, and scientists. In part, these choices reflect occupational interests and plans.

College students were asked to indicate which on a list of life goals they regarded as essential or very important to their lives. College women tended to give higher priority than did college men to such goals as influencing social values, raising a family, helping others in difficulty, writing original works, developing a philosophy of life, and participating in community action; men gave higher priority to obtaining recognition from colleagues, becoming an authority in one's field, being very well-off financially, and being successful in one's own business (Table 37).

The same kinds of sex differences obtained among black college students, with the larger proportions of women valuing such goals as helping others in difficulty, joining the Peace Corps or Vista, writing original works, and raising a family; and larger proportions of men wanting to become an authority in a field, obtain recognition from peers, be financially well-off, and be successful in business (Table 38).

Older college women more often than the younger ones, value influencing social values, raising a family, developing a philosophy of life, and keeping up with political affairs. On the other hand, younger women compared to older ones, value achieving in a performing art, becoming an authority in their field, and obtaining recognition from others (Table 39).

These sex differences in life goals and objectives--which in turn reflect values and expectations--were consistent for both high school and college students, blacks and whites. Men were motivated more by extrinsic values and interests; they thought in terms of being successful, financially well-off, recognized and respected--in short, of achieving in the external world. Women, on the other hand, were more motivated by intrinsic values. If they looked for success, it was chiefly at artistic endeavors. They were more altruistic, wanting to help others and to effect changes in social values. In short, they thought more in terms of service to others. Again, we see the socialization process at work. Boys are taught to feel they should be outgoing, aggressive, achieving; whereas girls are taught that women should be nurturant, passive, sensitive. These values have obvious implications for the choices women make about their program in high school, their college major, their occupation. They may help to explain why so many women take "serving" and "assisting" jobs, as helpers to men.

ACHIEVEMENT MOTIVATION IN WOMEN

Central to the issue of educational access and attainment is the extent to which young people ~~aspire~~ have high aspirations and strive to achieve educationally and occupationally. In this section, we examine the need to achieve as it is expressed by young women in our society.

Achievement motivation refers to the extent to which one is concerned with attaining excellence. Historically, most work in this area has dealt with men. In recent years, however, investigators have begun to probe the differential behavior of men and women with respect to achievement. Two questions have been explored: (1) Are women motivated to achieve to the same extent as men? (2) Are women motivated to achieve in the same areas and for the same reasons as men? Experimental efforts to resolve these issues have resulted in contradictory findings.

Work by McClelland and his associates (1953) forms the theoretical basis for much research on achievement motivation. They conceptualized achievement motivation as a relatively stable personality disposition, learned in early childhood, to strive for success in any situation where standards of excellence are applicable and to feel proud of success and ashamed of failure. They perceived the motive to achieve as generalizing across areas of achievement. According to this theory, the motive remains latent until it is aroused by situational cues. It is activated when a person believes that the consequences of his/her actions will lead to either a favorable or an unfavorable evaluation in terms of standards of excellence. Once aroused, the motive to achieve will result in achievement-oriented activity only if it is greater than the tendency to avoid failure.

Crandall and his associates (~~1965~~ 1964) proposed another model of achievement motivation according to which there are three determinants of motivation in a given situation: Expectancy of success, attainment value (the value attached to a particular type of achievement), and standards of performance. The minimum standard of performance is the lowest level a person considers satisfactory.

While academic and occupational status are commonly taken as measures of achievement motivation outside of experimental situations, empirical investigators frequently use projective measures of need for achievement, often stories written in response to pictures evoking achievement imagery. Tests for achievement motivation include the French Insight Test, the ETS Hidden Figures Test and, most frequently, the Thematic Apperception Test (TAT). Behaviors, such as task persistence, attempts at mastery, and working alone, are also considered indicators of achievement motivation.

An examination of studies using the TAT leads to the following conclusions: First, most studies which attempted to arouse subjects, thereby increasing their scores on need for achievement, were unsuccessful with women subjects. Second, women produced as much or more achievement imagery as men did when given either neutral instructions or instructed to achieve. Third, both sexes projected their achievement motivation onto male pictures. These findings have prompted some investigators to question whether the TAT is a valid technique for assessing achievement motivation in women.

Socialization of Achievement Motivation

The level and direction of achievement motivation in women appear to be affected by sex-role definitions, orientations, and expectations. Thus, women may be motivated to achieve only in areas that they and others consider appropriate to their female sex-role definition rather than in "inappropriate" masculine domains. Although, as was mentioned above, arousal treatments have generally not produced increases in achievement motivation scores for women, Stein and Bailey (1973) reported that arousal treatments that stress an important feminine area - social acceptability and skill rather than intelligence and leadership - do sometimes lead to increased achievement motivation.

Achievement needs may conflict with and be suppressed by affiliative needs. Some researchers theorize that achievement behavior in women is the result of affiliation motivation rather than achievement motivation. But Stein and Bailey (1973) concluded that this theory misinterprets the fact that social skill and interpersonal relations are often important areas of achievement for women. Although women may be more concerned than men with winning social approval and with demonstrating social skills, this concern does not determine their achievement behavior.

Personality attributes generally defined as feminine, such as nonassertiveness and dependency, may conflict with achievement motivation as it is usually manifested in intellectual and occupational contexts. Fear of success, considered a motive within an expectancy-value theory of motivation postulated by Horner (1972), is also thought to conflict with the motive to achieve. Considered a stable personality trait, fear of success is thought to develop in early childhood and adolescence when a girl comes to expect that negative consequences will follow her success in achievement situations because of the masculine-typed nature of achievement and of the personal qualities and behaviors necessary for achievement.

Women have evolved a number of methods to reduce the conflict between striving for achievement and fulfilling the traditional feminine role. Some women define achievement-related behavior as more feminine than others do, and so they do not regard their behavior as especially "out of role." Other women identify with the masculine role, satisfying their achievement needs vicariously through the accomplishments of their husbands and children. Still others choose to pursue a feminine career or to remain in a low-status position in an occupation. Concealing accomplishments (by, for instance, reporting a grade lower than the one actually received) and reducing effort, particularly in competitive situations, lessens the conflict for some women. Finally, women "compensate" for their achievement striving by being extremely feminine in appearance and behavior or by fulfilling all the functions of the traditional feminine role--wife/mother/homemaker--as well as those of their careers.

Why do so many girls and women perceive achievement as unfeminine and thus undergo such conflict? After examining the socialization literature to see how children learn patterns of achievement orientation and behavior, Stein and Bailey (1973) concluded that child-rearing practices conducive to feminine sex-typing are frequently antagonistic to those that lead to achievement-oriented behavior. The aspects of child-rearing which appear to facilitate achievement-oriented behavior in women are: (1) a moderate, but not high, level of warmth or nurturance; (2) permissiveness; (3) parental encouragement of independence, especially emotional independence; (4) parental encouragement of achievement effort including positive reinforcement, attempts at acceleration, and criticism for lack of effort; and (5) the presence of an achieving maternal model. But even when these conditions are satisfied within the home, the child is exposed to important others--peers, teachers, relatives--whose expectations and reactions may affect her development. Adolescence, with its vulnerability to social pressure, is especially crucial to the fate of achievement motivation in women.

Attribution Theory

Frieze and her associates, (1975), reviewing the research on achievement-oriented behavior, found that most studies conclude that women's failure to achieve is attributable to internal factors in the women themselves; too often, external barriers to achievement - which may be as important if not more so than psychological barriers - are overlooked in these studies.

People with high expectations tend to perform better on achievement tasks. But in our society, widely held sex-role stereotypes make it likely that women will have a lower expectation of success than men do. The source to which a person attributes his/her success or failure influences future expectancies and subsequent achievement strivings. The four most investigated causes of achievement are ability, effort, luck, and task difficulty. Ability and effort are internal, originating within the individual, while luck and task difficulty are external or environmental. A second dimension along which the four causes can be differentiated is stability: Ability and task difficulty are relatively stable, while effort and luck are highly changeable. Theoretically, maximum self-esteem is associated with a tendency to make internal attributions for success and external or unstable attributions for failure. Women's attributions can be characterized by general externality, often encouraged by modesty, low self-esteem, external locus of control, and fear of success. Individual differences (e.g., in need for achievement) mediate attribution patterns as do situational factors, such as whether the task is competitive.

The expectations and attributions of others concerning women in achievement situations are also important for two reasons: (1) these expectations and attributions can affect hiring, promotion, and other opportunities for achievement; and (2) women's internal barriers to achievement, such as a lower expectation of success, stem from cultural standards for sex-appropriate behavior.

Further study of achievement motivation in women is required. Women are not at present attaining high academic degrees and occupational status - societal measures of achievement motivation - in proportion to their numbers. We need to know just why: Is it because they are achieving in other than educational and occupational areas? Because they have a lower need to achieve? Because societal expectations inhibit their achievement strivings in these areas? If women's achievement motivation and opportunities are limited by either internal or external barriers, those barriers must be identified and reduced or eliminated.

Only then will there be a possibility for equal educational and occupational opportunity.

SUMMARY

Background factors--such as sex, ability, race, and SES--and early experiences shape a person's self-concept, perceptions of the world, and expectations about the future, and these in turn are important to the educational and occupational decisions that the person makes. Practically from the moment of their birth, children are socialized to regard certain traits, attitudes, and behaviors as appropriate to their sex. Actually, evidence indicates that on only a few traits and abilities do the sexes differ from one another, and those differences usually do not appear until adolescence. Thus, females seem to be superior in verbal ability and males in visual-spatial and mathematical ability; males appear also to be more aggressive than females. Other sociocultural beliefs about sex differences are either outright fallacious or unproven and in need of substantiation. Nonetheless, by the time they are in high school, boys and girls have been subjected to an intensive socialization campaign about what is appropriate and "natural" to their sex.

Although aptitude and past achievement affect postsecondary access and attainment, background characteristics as racial/ethnic background and SES are also influential. Being of low SES is particularly detrimental to women; highly able lower-class girls are much less likely than are their male counterparts to go on to college. A young man who is able to meet the admissions requirements and pay the fees will probably be able to attend a postsecondary institution; but the probability that a young woman will go on to postsecondary education is influenced by other factors, such as the values and education of her parents and the availability of college close to home.

Because adequate preparation in high school--which usually means taking an academic or college-preparatory program--is crucial to pursuing postsecondary training, we conducted an analysis to determine the relation of sex, race, and SES to enrollment in a college-preparatory program in high school. SES, as measured by father's education, was found to be particularly important: Only three in ten of the students whose fathers had less than a high school education were in college-preparatory programs, compared with two in three of the students whose fathers had completed college.

The differential effects of SES are manifested in postsecondary education completion rates as well as in college attendance. Given two highly able students from lower-class backgrounds, a man and a woman, it is the man who is most likely to complete postsecondary training.

It has been maintained that one reason women fail to achieve as highly as men, educationally or occupationally, is that they set lower goals for themselves. Their aspirations, it is held, are determined in part by their less favorable self-concepts and lower self-esteem. Moreover, traits considered feminine are often inconsistent with high achievement educationally and occupationally.

Though high school students of both sexes seemed generally positive in their self-images, college students revealed views about themselves that may help to explain differential achievement of the sexes. Thus, women tended to give themselves high ratings on traits related to social competence and sensitivity, whereas men gave themselves high ratings on traits related to academic abilities and achievement. These sex differences held true among blacks as well as whites.

The life goals of college students revealed that men tend to base their goals on extrinsic and materialistic values such as being successful, making money, receiving recognition, and taking leadership roles; women, on the other hand, emphasize intrinsic and altruistic values, such as helping people in difficulty, correcting social inequities, raising a family. These differences may help to explain differences in the kind of college majors and occupations that men and women choose.

Just as the self-concept and values of women are shaped by sex-role definitions, orientations, and expectations, so is her motivation to achieve. Although experimental attempts to raise the need to achieve in women have usually not been successful, Stein and Bailey (1973) report that experiments that stress the feminine area of social acceptability and skill rather than, intelligence and leadership, have led to increased achievement motivation on the part of women.

Personality attributes generally defined as feminine, such as lack of assertiveness and dependency, may conflict with achievement motivation. Horner (1972) maintains that fear of success, viewed as a motive within an expectancy-value theory of motivation, also prevents women from achieving.

Many women, experiencing conflict between achievement striving and the feminine role, have adopted various methods of reducing that conflict, including defining achievement-oriented behavior as feminine, satisfying their achievement needs vicariously through male figures, concealing their achievements, or playing the ultra-feminine role at the same time they are striving for achievement.

Stein and Bailey (1973) found that the child-rearing practices conducive to feminine sex-typing are frequently antagonistic to those that lead to achievement-oriented behavior. Though child-rearing practices that encourage achievement-oriented behavior in women have been identified (e.g., a moderate, but not high level of warmth or nurturance, the presence of an achieving maternal model), the growing girl is still exposed to many other people who may influence her development.

Frieze and her associates suggest that women are more likely to attribute their success or failure to achieve to external factors such as good luck than to ability. Maximum self-esteem is associated with a tendency to make internal attributions which explains why women attribute their achievement to external factors.

FOOTNOTES - CHAPTER 3

1. For the data presented in this section we depended heavily on statistical reports; thus, we were often unable to present sex differences for minority populations.

2. Achievement was measured by a test developed at Project TALENT.

3. Tables 28 and 29, and the discussion that accompanies them, are based on tabulations developed from NLS. The populations described are students in college-preparatory programs. We chose this group on the assumption that they were adequately prepared for collegiate work if they wished to do it. Thus, we could examine the differential effects of SES and race on the sexes with respect to future educational plans, controlling for academic preparation while in high school.

4. All these findings should be interpreted with caution because of the low Ns for the black student groups.

5. These data were abstracted from A National Profile of Black Youth: The Class of 1971, a research report produced by NSSFNS.

TABLE 27--Selected background characteristics of 1960 ninth graders with at least 4 years of college in 1968, by sex: United States, 1968 (in percentages)

Characteristics	Men (N=1,473)	Women (N=1,571)
Total who reached grade 12	31	23
High achievement	51	50
Low achievement	15	6
High socioeconomic status (SES)	50	37
Low SES	17	12
High SES, high achievement	62	63
High SES, low achievement	28	11
Low SES, high achievement	33	32
Low SES, low achievement	10	4
High grades	40	33
Low grades	21	13
High SES, high achievement, college prep high school program	68	69

NOTE--Variables were dichotomized at the mean. Years of college measured five years after high school.

SOURCE: Harvard University, "Sex differences in factors affecting educational outcomes," by M.D. Brown (1974).

TABLE 28--Type of college 1972 high school seniors plan to attend by sex, ethnic category and father's education: United States, 1972
(in percentages)

Students	College	
	Two-year	Four-year
Father less than H.S. graduate		
White women (N=337)	29	70
Black women (N=82)	19	76
White men (N=356)	27	68
Black men (N=58)	11	88
Father college graduate		
White women (N=777)	14	84
Black women (N=26)	15	82
White men (N=758)	12	85
Black men (N=11)	-	96

NOTE--The populations for tables 28 and 29, students in academic programs, were chosen because they were adequately prepared for collegiate work if they wished to continue their education. Thus, SES and race could be examined on sex differences with respect to future education plans, controlling for academic preparation while in high school.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, Vol I and II, prepared by B.W. Thompson (1974).

TABLE 29--Highest level of educational attainment planned by 1972 high school seniors, by sex, ethnic category, and father's education: United States, 1972

(in percentages)

Students	Vocational Training	Four-Year College
Father less than H.S. graduate		
White women (N=446)	18	49
Black women (N=87)	14	54
White men (N=416)	13	49
Black men (N=55)	15	58
Father college graduate		
White women (N=788)	4	65
Black women (N=23)	-	31
White men (N=787)	3	53
Black men (N=9)	-	38

NOTE--This table is based on tabulations of students in academic curricula. The Ns for black students are small, especially for men and women whose fathers are college graduates.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, Vol. I and II, prepared by B.W. Thompson (1974).

TABLE 30--Completion rates of 1960 high school graduates within noncollegiate and collegiate institutions, by sex, race, socioeconomic status and academic ability: United States, 1971
(in percentages)

		Noncollegiate				Two-year college				Four-year college			
		White		Non-White		White		Non-White		White		Non-White	
SES	Academic Aptitude	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
	Low	34	19	23	18	4	2	-	6	4	1	5	[illegible]
Low	Medium	42	24	38	27	7	4	7	2	20	7	20	8
	High	37	33	29	33	14	6	14	7	59	34	43	40
	Low	40	25	40	35	4	4	-	6	9	4	13	-
Medium	Medium	45	28	36	34	10	4	11	1	35	14	33	13
	High	38	23	25	23	11	5	12	8	74	47	78	55
	Low	42	38	67	17	7	6	-	33	16	8	67	17
High	Medium	39	27	41	20	14	9	13	12	56	35	41	22
	High	34	19	30	24	8	5	5	8	87	72	88	66

NOTE-- Analyses are based on a sample of 17,796 white and 1,427 nonwhite high school graduates tested first in 1960 as seniors and followed up in 1971, 11 years after high school graduation.

SOURCE: American Institutes for Research, Palo Alto, California, Project TALENT: Post High School Education and Career Development, prepared by W. M. Yen and D. H. Mc Laughlin (1974).

TABLE 31--Views of 1972 high school seniors who 'agree strongly' or 'agree' with the following statements about themselves or life, by sex: United States, 1972
(in percentages)

Views	Sex	
	Men	Women
I take a positive attitude toward myself	88	84
Good luck is more important than hard work	11	7
I feel I am a person of worth	94	93
Everytime I try to get ahead, something or someone stops me	25	17
Planning only makes a person unhappy since plans hardly ever work	22	18
People who accept their condition in life are happier than those who try to change things	35	33
On the whole I am satisfied with myself	74	77
I am able to do things as well as most other people	94	90

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W.B. Fetters (1975).

TABLE 32 --Above average self-ratings of entering college freshmen, by sex: United States, 1966, 1972 and 1974
(in percentages)

Traits	1966		1972		1974	
	Men	Women	Men	Women	Men	Women
Academic ability	56	59	50	52	53	53
Athletic ability	45	24	46	24	51	26
Artistic ability	16	22	16	20	18	21
Cheerfulness	51	58	48	56	47	58
Defensiveness	28	28	27	27	27	28
Drive to achieve	56	58	51	54	60	60
Leadership ability	41	35	39	30	46	36
Mathematical ability	44	26	38	26	39	27
Mechanical ability	37	11	35	8	37	10
Originality	38	36	35	33	38	36
Political conservatism	18	12	10	7	13	8
Political liberalism	20	18	26	20	22	18
Popularity (general)	35	29	32	26	34	26
Popularity (with opposite sex)	32	25	30	24	33	26
Physical attractiveness[1]	-	-	-	-	28	24
Public speaking ability	24	21	21	17	28	24
Self-confidence (intellectual)	41	31	39	30	46	35
Self-confidence (social)	33	26	30	25	37	31
Sensitivity to criticism	25	30	23	28	23	28
Stubborness	36	28	35	37	36	28
Understanding of others	55	66	58	67	61	71
Writing ability	26	29	27	29	29	32

[1] This item was not asked in 1966 or 1972.

NOTE:—Percentages are based on weighted Ns representing the universe.

SOURCE: (1) American Council on Education, National Norms for Entering College Freshmen--Fall 1966, prepared by A.W. Astin, R.J. Panos and J.A. Creager (1967). (2) American Council on Education, The American Freshman: National Norms for Fall 1972, prepared by the staff of the Office of Research (1972). (3) American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for Fall 1974, prepared by A.W. Astin, et al., (1974).

TABLE 33 --Above average self-ratings of black freshmen entering college, by sex: United States, 1971
(in percentages)

Traits	Sex	
	Men	Women
Academic ability	30	30
Athletic ability	52	19
Artistic ability	15	11
Cheerfulness	55	61
Defensiveness	32	29
Drive to achieve	59	62
Leadership ability	43	32
Mathematical ability	21	14
Mechanical ability	20	5
Originality	31	32
Political conservatism	6	4
Political liberalism	23	18
Popularity (general)	38	32
Popularity with opposite sex	43	32
Public speaking ability	23	20
Self-confidence (intellectual)	43	33
Self-confidence (social)	41	33
Sensitivity to criticism	19	20
Stubbornness	22	28
Understanding of others	61	65
Writing ability	25	29

NOTE--Percentages are based on weighted Ns representing the universe.

SOURCE: American Council on Education, The Black College Freshman: Characteristics and Recent Trends, prepared by A.E. Bayer (1972).

TABLE 34--Above average self-ratings of entering college freshmen women by age group: United States, 1974
(in percentages)

Traits	Age[1]	
	19 or under N=799,758	31 or above N=3,854
Academic ability	53	35
Athletic ability	26	12
Artistic ability	21	21
Cheerfulness	58	52
Defensiveness	27	16
Drive to achieve	60	67
Leadership ability	36	36
Mathematical ability	27	13
Mechanical ability	10	12
Originality	36	31
Physical attractiveness	24	19
Political conservatism	8	9
Political liberalism	18	18
Popularity	26	20
Popularity with opposite sex	26	22
Public speaking ability	18	18
Self-confidence (intellectual)	35	35
Self-confidence (social)	31	35
Sensitivity to criticism	28	20
Stubborness	38	28
Understanding of others	71	66
Writing ability	32	25

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[1] 96 percent of the freshmen women are 19 or under.

SOURCE: American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for Fall 1974, prepared by A.W. Astin, et al., (1974).

TABLE 35--Very important life goals of 1972 high school seniors, by sex: United States, 1972

(in percentages)

Goals	Sex	
	Men	Women
Being successful in my line of work	86	83
Finding right person to marry and having a happy family life	79	85
Having strong friendships	80	78
Being able to find steady work	82	74
Being able to give my children better opportunities than I've had	67	67
Working to correct social and economic inequalities	23	31
Having lots of money	26	10
Getting away from this area of the country	14	15
Being a leader in my community	15	8
Living close to parents and relatives	7	9

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W. B. Fetters (1975).

TABLE 36--Person 1971 black high school seniors indicated they would most like to be, by sex: United States, 1971
(in percentages)

Persons	Men N=22,435	Women N=32,285
Political leaders	5	3
Businessmen	20	11
Military figures	3	1
Scientists	13	10
Artists, musicians, or writers	12	15
Athletes	26	3
Actors or entertainers	4	11
Civil rights leaders	7	12
Religious leaders	2	3
Educators	10	32

SOURCE: National Scholarship Service and Fund for Negro Students (NSSFNS), A National Profile of Black Youth: The Class of 1971.

TABLE 37 --Essential or very important life goals of entering college freshmen, by sex: United States, 1974
(in percentages)

Goals	Sex	
	Men	Women
Achieve in a performing art	10	13
Be an authority in my field	67	58
Obtain recognition from colleagues	43	35
Influence political structure	15	10
Influence social values	25	29
Raise a family	53	57
Have administrative responsibility	29	22
Be very well off financially	54	36
Help others in difficulty	53	70
Theoretical contribution to science	16	10
Writing original works	11	13
Creating artistic work	11	17
Be successful in my own business	48	28
Be involved in environmental clean-up	28	24
Develop philosophy of life	57	65
Participate in community action	25	30
Keep up with political affairs	39	34

NOTE--Percentages are based on weighted Ns representing the universe.

SOURCE: American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for Fall 1974, prepared by A.W. Astin, et al., (1974).

TABLE 38--Essential or very important life goals of black freshmen entering college, by sex: United States, 1968 and 1971

Goals	1968		1971	
	Men	Women	Men	Women
Achieve in a performing art	12	12	15	15
Be an authority in my field	68	67	73	70
Obtain recognition from peers	55	45	55	47
Perform or compose music	10	6	-	-
Be an expert in finance	20	11	30	17
Be administratively responsible	33	28	35	27
Be very well-off financially	60	44	60	48
Help others in difficulty	61	75	67	74
Join Peace Corps or Vista	16	22	14	18
Become an outstanding athlete	29	5	-	-
Become community leader	38	24	31	22
Contribute to scientific theory	17	11	14	9
Write original works	12	14	14	15
Not be obligated to people	30	32	30	30
Create works of art	11	11	13	13
Keep up with political affairs	52	47	47	37
Succeed in my own bussiness	62	46	60	43
Develop a philosphy of life	80	85	68	68
Influence political structure	-	-	26	17
Influence social values	-	-	40	37
Raise a family	-	-	54	55
Have active social life	-	-	61	49
Have friends different from me	-	-	57	55
Help clean up environment	-	-	41	36
Participate in community action	-	-	41	40
Marry within next five years	-	-	22	36

NOTE--Percentages are based on weighted Ns representing the universe.

SOURCE: (1) American Council on Education, The Black Student in American Colleges, prepared by A.E. Bayer (1969). (2) American Council on Education, The Black College Freshman: Characteristics and Recent Trends, prepared by A.E. Bayer (1972).

TABLE 39--Essential or very important life goals of college freshmen women, by age group: United States, 1974 (in percentages)

Goals	Age[1]	
	19 or under (N=[illegible]99,758)	31 or above (N-3,854)
Achieve in a performing art	13	5
Be an authority in my field	58	52
Obtain recognition from colleagues	35	31
Influence political structure	10	11
Influence social values	29	36
Raise a family	57	73
Have administrative responsibility	22	28
Be very well off financially	36	33
Help others in difficulty	70	70
Theoretical contribution to science	10	12
Writing original works	13	11
Creating artistic work	17	16
Be successful in my own business	28	21
Be involved in environmental clean-up	24	25
Develop philosophy of life	65	75
Participate in community action	30	34
Keep up with political affairs	34	42

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[1] 96 percent of the freshmen women are 19 or under

SOURCE: American Council on Education and the University of California at Los Angeles, *The American Freshman: National Norms for Fall 1974*, prepared by A.W. Astin, et al., (1974).

CHAPTER 4

INSTITUTIONAL PRACTICES: INFORMATION, ADMISSIONS, SPECIAL PROGRAMS AND PROBLEMS

As Chapter 2 demonstrated, men and women differ in their participation rates in high school programs, postsecondary institutions, graduate and professional schools, and fields of study. At each higher step of the educational system, fewer women participate. For example, in 1972-73, women constituted 51 percent of high school graduates; and in 1973-74, they earned 45 percent of the baccalaureates, 44 percent of the master's degrees, and 19 percent of the doctorates awarded (Grant and Lind, 1975).

In high school, slightly more boys than girls are enrolled in college-preparatory programs; of the students enrolled in vocational-technical programs, girls are concentrated in business and office skills training, whereas boys are clustered in trade and industrial areas. Girls graduate from high school with more preparation in foreign languages and English, and boys with more preparation in science and mathematics.

At the college level, women are more likely to attend small, less selective, less affluent institutions; they are disproportionately enrolled in Catholic four-year and private two-year colleges. Women are underrepresented at elite institutions and conspicuously absent from technical institutions.

The graduate and professional school enrollments of women lag behind those of men. Thus, a 1971 follow-up study of the class of 1965 indicated that 56 percent of the women, but only 43 percent of the men, had taken no advanced study (El-Khawas and Bisconti, 1974).

The fields of study that women choose in college and graduate school are the traditionally "female" fields, most of them leading to relatively low-status jobs, if indeed they lead to any jobs at all. For instance, the four doctoral fields with the highest proportion of women are home economics, foreign languages, library science, and education. Women receive 10 percent of the bachelor's degrees awarded in business and management, 6 percent of those in agriculture and natural resources, and 1 percent of those in engineering.

Women fare no better in the noncollegiate sector of postsecondary education. Though they are well represented among vocational-technical education students, they cluster either in fields that are not job-related (homemaking and consumer education) or in those that lead to low-status jobs (e.g., office skills).

Chapter 3 explored some of the factors connected with the lower status of women in postsecondary education, emphasizing particularly the socialization process and its adverse effects on the self-esteem and achievement motivation of women. Often the lower educational and occupational achievement of women is attributed to their internalization of the sex norms of our society. If one accepts the notion that these norms are pervasive and that they are inculcated early, it becomes all too easy to say that nothing can be done by the time the student is in high school. An understanding of how the sexes develop in our society should not be used as a justification for perpetuating inequities. Yet our schools, colleges, and other educational institutions may be guilty of doing just that. In this chapter, we will describe some of the institutional practices that may have discriminatory consequences for women. Three areas are explored: the information that students use in making postsecondary decisions; admissions practices; and special programs for their absence.[1]

For each section, we have drawn on all three of our data sources, reviewing the research and theoretical literature, analyzing statistical reports, and conducting exploratory studies designed to throw light on issues that have not been investigated before.

THE ROLE OF INFORMATION

As they approach graduation, high school students are involved in formulating plans for the future and making postsecondary decisions: Should they continue their education; and, if so, in what kind of institution? If in a college, which one? In making these decisions; they are influenced by the information they receive during high school. Some of that information comes in the form of guidance and advice from counselors, teachers, parents, and peers; some comes in the form of scores on tests that purport to measure interests and aptitutdes; some comes from publications such as encyclopedias of occupations, college admissions manuals, and institutional catologs. This section examines the role of each of these possible sources of information, looking at the kind of influence it may exert and the sex bias it may contain.

Influence of Counselors and Others

In 1960, high school seniors in the Project TALENT sample were asked about the kinds of advice they sought: from whom, how often, and about what. Tables 40 and 41 show the proportions of students seeking advice from each of various people available to them, and the types of problems discussed. Sex differences emerged. Thus, boys were more likely to talk over their postsecondary plans frequently with their fathers, and girls with their mothers. In addition, a higher proportion of boys sought out counselors more often, whereas more girls discussed their plans with peers and other adults frequently. Boys were more likely than girls to discuss college plans, high school work, and personal problems with teachers, principals, and counselors; boys and girls discussed post-high-school jobs with about the same frequency.

NLS data provide further insights into how young people arrive at decisions about what program they will take in high school and about what they will do after graduation (tables 42 and 43). Four in five students--of both sexes and all racial/ethnic groups--said that they themselves were primarily responsible for these decisions. Parents exerted a greater influence on postsecondary plans than on choice of a high school program, whereas counselors were more influential in decisions about high school program than postsecondary plans. Peers also exerted some influence on both decisions. A somewhat higher proportion of girls (24 percent) than boys (22 percent) said that they had discussed their postsecondary plans with counselors, and about equal proportions (9 percent) said that counselors had influenced their plans.

Minority students are apparently particularly apt to look to others for advice. For instance, 30 percent of the black students and 26 percent of the Hispanic students said that counselors influenced their choice of a high school program, compared with only 13 percent of the white students. Sixteen percent of the Hispanics and 21 percent of the blacks, but only 7 percent of the whites, felt that counselors had influenced their postsecondary plans.

A further analysis, which controlled for high school program and father's education, revealed other important differences among racial/ethnic groups. Of students whose fathers had not graduated from high school, black students indicate more often than white students that parents, other relatives, peers, and counselors influence their postsecondary plans (table 44). However, these findings do not hold true for students whose fathers are college graduates. Table 45 illustrates the extent to which students discuss their plans with different adults and peers. All groups, independent of sex, race, and father's education are more likely to discuss their plans with parents and peers than with any other adult group. However, black men and women are more likely than white students to discuss their future plans with counselors.

Father's education--one component of SES--was also an influential factor. Students were more likely to discuss their plans with their parents if their father was a college graduate than if he was only a high school graduate. In addition, black men with college-educated fathers were much more likely than either black women, white men or women to discuss their plans with counselors.

In a 1965 follow-up of the 1960 Project TALENT survey of high school seniors, respondents were asked what important decisions they had made that they later regretted. The sexes differed on this point in that more men reported that they were sorry that they had not gone on to college or that they dropped out once enrolled; whereas more women said they regretted their choice of a college.

It is somewhat alarming to find that, though "failure to obtain education after high school is inversely related to discussing higher education with the counselor" (Flanagan et al., 1971, pp. 5-8), there was no systematic relationship between satisfaction with college choice and discussions with the guidance counselor. Reporting these results, the authors comment: "This failure to find systematic trends where they would logically be expected poses some rather serious questions concerning the effectiveness of high school guidance programs" (Flanagan et al., 1971, p. 8-13).

How do students themselves feel about the quality of the counseling they receive in high school. Returning to the NLS data, we find that opinions differed according to the sex and race of the respondent. Black men tended to be more favorable than any other group with 83 percent of those whose father had a college education rating the guidance and counseling at their school as good or excellent. Most white men were also satisfied, with 61 percent rating the counseling service good or excellent. Women tended to be less satisfied; high ratings were given to the counseling service by only 54 percent of the white women and 41 percent of the black women. Does this signify disparity of treatment between the sexes? Do counselors, for example, take the postsecondary decisions of girls less seriously than those of boys; Do they give them poorer advice? The data do not indicate the answers to these questions. The interchange between counselor and student--especially the content of that interchange and the quality of the information given by the counselor--needs systematic study.

Tests and Inventories

In our society, great emphasis is placed on the scores that students make on interest-inventories and aptitude tests. These scores are often used by guidance counselors to advise students to attend or not attend college, to consider some occupations but not others; they are often taken by the student to represent some absolute profile of his/her talents and interests. In short, they may be a major influence on the crucial decisions that a student makes. In light of their potency, it is urgent that such tests be free from bias.

Interest inventories are perhaps the most controversial of these instruments. Their advocates proclaim their multifold value: they facilitate the student's vocational exploration and broaden career options; they provide the counselor with a vehicle for understanding the student's needs. Their critics, however, are skeptical of these claims. For instance, Birk (1975) and others have questioned (1) whether interest inventories in their present form and use actually provide a broadening experience for women, (2) whether they are effective in defining women's interests, and (3) whether SES and other demographic variables may not be more powerful determinants of a student's choices than measured interests are.

Tanney (1975), reviewing the literature on the impact of test language, found no studies on how the lingistic structure of items affects test results. She notes that criticisms of the empirical development of interest inventories are much more damning.

Such a criticism is delivered by Tittle et al. (1974), who, in a general discussion of interest inventories, pointed out that several test developers constructed their inventories wholly on an empirical basis, with little theoretical formulation to guide them. The difficulty with this method is that, empirically, this is a man's world, a world that limits the options available to women by limiting their occupational choices in ways that reflect cultural stereotypes. Thus, these inventories in effect assume that what is is what should be.

Besides the shortcomings in the inventories themselves, the manuals that accompany them are a source of race and sex bias. Test administrators usually become familiar with an instrument through the manual, which describes the instrument, recommends guidelines for its use and gives data on scale construction and validation. The test administrator reads the manual in order to administer the inventory in a standardized way and to interpret the results.

Birk (1974), after analyzing the manuals of four interest inventories, noted that they contained both explicit instructions and subtle suggestions which, if followed, could have a negative effect on female respondents. In a later paper, Birk (1975) cites as an example the following passage from the Strong Vocational Interest Black (SVIB) manual: "Many young women do not have strong occupational interests, and they may score high only in certain 'premarital' occupations.... In such cases, the selection of an area of training or an occupation should probably be based on practical considerations--fields that can be pursued part-time, are easily resumed after periods of unemployment, and are readily available in different locales" (~~Campbell, 1966, p. 13~~ Birk, 1975, p 104). If the guidance counselor takes this advice to heart, the result is hardly likely to be a broadening of the career options of the female client. On the contrary, her options will be narrowed to low-status, poorly paid occupations. Moreover, it may be conveyed to her that her career choices are not to be taken seriously.

Other Guidance Materials

Young people are exposed to a variety of other counseling and guidance materials, in addition to interest inventories, that may be sex-biased. These materials include handbooks and "encyclopedias" designed to give information on various occupations, college admissions manuals designed to help students select institutions, and catalogs published by the institutions themselves and designed to attract and inform students.

Though analyses of the text of career guidance materials are scarce, several studies have been done of the illustrations in such materials. Examining illustrations showing "career representatives" in the 1972 edition of the Occupational Outlook Handbook (OOH), the 1972 edition of the Encyclopedia of Careers and Vocational Guidance (ECVG), Volumes I and II, and assorted career pamphlets, Birk, Cooper, and Tanney (1973) found definite evidence of bias. Career representatives in high-level (professional, technical, and managerial) positions were mostly men; indeed, pictures of men predominated in all occupational categories but one, clerical and sales, where 54 percent of the illustrations showed women. Moreover, men were more often depicted performing exciting and challenging tasks; for instance, one in four were active in their postures, compared with only 7 percent of the women. About one in four of the male career representatives were shown in outdoor settings, compared with only 4 percent of the female career representatives. Men were shown working autonomously, whereas women were cast as assistants. One-third of the women were shown in a helping role, compared with 12 percent of the men. Although women and minority-group members were occasionally depicted in nontraditional occupations, rarely were men shown in traditionally female occupations.

To discover whether recent efforts by women's groups and others to end such sex bias had met with any success, the same authors did a follow-up study of illustrations in the 1974-75 OOH. They found that women were underrepresented in comparison with their proportions in the labor force, whereas minority-group members were slightly overrepresented. (Birk, Cooper, and Tanney, 1975).[2] The same patterns were found in the depiction of men and women--with respect to environmental setting, theme, activity, and DOT classification--as had been found in the earlier study. Apparently, efforts to end race bias have been somewhat more effective than efforts to end sex bias in such materials. These findings take on significance when one realizes that OOH is a popular and widely used guide: Over 80,000 copies of the 1972-73 edition were distributed to high school, college, and other educational guidance centers.

The research team at the Higher Education Research Institute conducted a content analysis of the illustrations in the 1974-75 edition of the ECVG and of the OOH, with similar results. Only 11 percent of the ECVG illustrations and 17 percent of the OOH illustrations represented women alone, though they constitute 39 percent of the labor force. Another 14 percent of the illustrations in the ECVG and 11 percent in the OOH depicted representatives of both sexes. Blacks were underrepresented in the ECVG (3 percent of the illustrations, as compared to 11 percent blacks in the labor force) but overrepresented in the OOH (18 percent). Table 46 shows other results of this analysis.

Vetter (1975) looked at a somewhat wider range of publications, including (1) student materials listed in the Vocational Guidance Quarterly's current bibliography of career literature published in 1970 or later, and (2) other publications listed in two bibliographies of commercial and noncommercial materials. The conclusions were much the same: 61 percent of the illustrations depicted men only, 21 percent depicted women only, and 18 percent were of both. Men were more often shown in outdoor settings. In the second group of materials, 11 percent of the men and 15 percent of the women were black, whereas 4 percent of the men and 3 percent of the women were members of other minority groups. About half the men and two-thirds of the women were portrayed in professional occupations (as compared with 17 percent and 16 percent, respectively, in the labor force). Although 14 percent of the women in the labor force work in operative positions, no illustrations showed this. Although over one in three women in the labor force work in clerical positions, only 12 percent of the illustrations of women showed them in clerical positions. Vetter raises the question of whether career materials should represent the status quo or should seek to give some picture of the future (when, ideally, women will be more evenly distributed among various occupations). She concludes that, since these materials will be used by students to plan their future lives, the latter alternative is preferable: better to depict what should be than what is.

In a content analysis of these same assorted career guidance materials, Vetter, Stockburger and Brose (1974) found that men and women are depicted in illustrations and mentioned in the text in significantly different proportion within the ten general census categories of occupations. Slightly over one-third of the materials mentioned that women have different career patterns than men, and 30 percent mentioned working mothers. The pronoun "he" was used most frequently, followed by you, and with she being used least frequently. The authors concluded that most of these materials are guilty of stereotypic representations of the sexes.

College admissions manuals are similarly slanted, according to a study by Tittle et al. (1974). For instance, in the American College Testing (ACT) program's *Using ACT on Campus* (1972-73 edition), both the item writer and the student are referred to as *he*, and all sample profiles and examples given are of males. Similarly, the *Comparative Guidance and Placement Program* of the College Entrance Examination Board (CCEB) consistently refers to counselor, faculty advisor, and student as male. *Usage in the ACT Counselor's Handbook* (1972-73 edition) is mixed, with the student sometimes referred to as *he* and sometimes as *she* in inconsistent and illogical fashion.

Is this use of the masculine pronoun so important? After all, some would argue, the English language is so structured that the third-person masculine pronoun may convey either sex, when the sex of the individual is unknown. While not denying that this usage is traditional, we (and many others) are wary of its effects. As the American Psychological Association Task Force on Issues of Sex Bias in Graduate Education pointed out, it is difficulty to known whether the writer is using *he* or *men* or any other such masculine form to refer to a specific man or human beings in general. For instance, is the author who refers to a hypothetical physician as *he* doing so because the majority of physicians in this country are male, or is the author using the generic *he*? The Task Force concludes that "perhaps...when 'she' is not included, 'she' is, indeed, not included." In any case, the report notes, if sophisticated readers such as members of the Task Force cannot tell whether *he* refers to an individual or is used generically, what can high school students make of such usage? It is likely that they will get the impression that "women are less important,...that there are fewer women in the world" of work. Linguistic structures determine our thinking to a greater extent that most of us realize.

Another common source of information for high school students making postsecondary decisions are institutional catalogs, which may affect access in that they either attract or discourage students. An analysis of these catalogs can uncover discriminatory attitudes and practices within the institution that affect both the access and progress of women students (see p.153 of this chapter for a more thorough discussion of these practices). We undertook such an analysis, using catalogs from a random sample of 100 collegiate institutions and 19 proprietary schools (see appendix B for a list of the sample). The method of analysis was as follows: We tallied the number of half-pages for each catalog and calculated a percentage for each sex, based on how many half-pages were devoted to men and how many to women. Photographs of faculty and administration were analyzed by sex, as were departmental descriptions. Items that could be considered descriptive of an environment favorable to women--such as special services for women students, extension or nondegree programs, women's studies, and women's athletic programs--were noted. (See table 47 for a summary of these analyses.) Data were grouped according to type of institution: four-year college (and university), two-year college, proprietary school. Single-sex institutions were analyzed separately. (See appendix B for a fuller description of the methodology.)

Overall, the results indicate that institutional catalogs devoted far more space to men than to women, with four-year colleges and universities being the prime offenders: 23 percent of the half-pages were devoted to men, fewer than 1 percent to women. Two-year college catalogs devoted 16 percent of the half-pages to men and 2 percent to women. Proprietary school catalogs were most equitable in their treatment of the sexes, with 14 percent of the half-pages devoted to men and 9 percent to women.

Faculty distribution by sex follows the same pattern. Three-fourths of the faculty at four-year colleges and universitites, and 70 percent at two-year colleges are men. At both types of institutions, the proportion of men was highest at the level of full professor and assistant professor and lowest at the unranked levels. Proprietary school were somewhat more balanced in that 59 percent of the faculty were men and 41 percent women. College administrations were male-dominated at the upper and middle levels, though far greater proportions of women were found at the associate dean level and in counseling services. Again, proprietary schools differed somewhat from collegiate institutions in that, while most presidents and vice-presidents were men, slightly more women were found in middle-level administration and at the dean level.

Proprietary schools tended to provide fewer special programs for women than did collegiate institutions, possibly because these school provided fewer student services in general. Catalogs from collegiate institutions mentioned special services for women only infrequently: Only 2 percent of the four-year colleges and 11 percent of the two-year colleges mentioned women's centers, and the same proportions mentioned child care; 6 percent of the four-year colleges mentioned having gynecologists on the health service staff, and no two-year college mentioned this; 6 percent of the four-year colleges and 11 percent of the two-year colleges mentioned women's studies. About half as many college catalogs mentioned women's varsity teams as mentioned men's, and about half specified a degree in women's physical education. While departmental descriptions did not necessarily specify the sex of the students, those that did (ranging from 12 percent of the descriptions of course offerings in psychology to 43 percent in education) mentioned men; no department specified women.

Catalog illustrations dealt somewhat differently with men and women. Over all, more than a third in all three types of institutional catalogs depicted men only; 25 percent of the illustrations in four-year college catalogs, and 29 percent of those in two-year catalogs, showed women only; and 45 percent of those in proprietary school catalogs showed women only. Other striking differences emerged: for instance, except in some of the four-year college catalogs, women were never shown in technical laboratories, either alone or with men; men were shown infrequently in pictures portraying nurses. Illustrations of contact sports depicted men almost exclusively, whereas women were frequently pictured alone in dance and exercise activities. Men predominated in pictures of faculty and administrators.

The catalogs of most institutions (64 percent of the four-year colleges, 66 percent of the two-year colleges, and 43 percnet of the proprietary schools) contained affirmative action statements, some of them (46 percent, 22 percent, and 21 percent, respectively) mentioning sex specifically. Nonetheless, college catalogs seem to focus on men, providing few role models for women. The impact that these catalogs have on high school students can only be surmised, but it seems likely that they amy suggest to many that options for women in postsecondary education are limited indeed.

It seems indisputable, then, that guidance materials are sex-biased, though often in subtle ways. To what extent are high school students exposed to such materials? To answer this question, our research team conducted an exploratory study of six large high schools located in a metropolitan area on the West Coast and selected to represent a range of students with respect to racial/ethnic background and SES. Two of these high schools were predominantly white, and middle- or upper-middle-class; one was a racially balanced middle-class school; one was a black middle-class school, another a black lower-class school and the sixth a predominantly Mexican American lower-class school.[3]

The catalogs available in the library of one school were analyzed on the basis of the environmental characteristics of the intitutions they represented. Most were catalogs from academically competitive colleges. Whether the high school librarian requests these catalogs or whether these colleges have a more aggressive recruiting campaign and thus are more likely to distribute their catalogs to high schools without being requested to do so is not known. What is important to note here is that high schools students are likely to be exposed to information about a rather limited group of postsecondary institutions and thus may not be aware of the variety of institutions in the nation and the diversity they represent.[4] The other types of guidance and reference materials on colleges and on careers varied considerably from one high school to the next.

Talking with the guidance personnel in these schools, the staff learned that most schools depend heavily on free materials, simply because funds for other materials are not available. Career counselors at two of the inner-city high schools emphasize that audiovisual materials were needed to reach a broader population of students but that the costs of such materials--and the equipment required for them--were prohibitive. Another counselor, while agreeing that audiovisual aids were in many ways useful, remarked that most film strips presented only sex-stereotyped options to students.

In short, the information that high school students get as they attempt to make postsecondary decisions appears to be limited and biased. The effectiveness of counseling services is uncertain; interest inventories have been criticized as biased, with respect not only to sex but also to race/ethnicity; and other materials that high school students may turn to for information and guidance generally give an unbalanced picture of the sexes that may suggest to girls that their educational and occupational options are limited, and--what is worse--that this is how it should be because women are inferior to men in academic and leadership abilities.

ADMISSIONS

As an expression of mounting concern in the late 1960s that selective admissions policies at the nation's colleges and universities might penalize minority-group members because of their inadequate high school preparation, two national conferences focused on examining barriers to higher education. At the first, The Campus and the Racial Crisis (American Council on Education, 1969), Alexander w. Astin reviewed the impact of selective admissions of minority access and persistence, concluding that admissions practices based on high school grades and standardized test score~~d~~s did indeed tend to exclude minorities. At the same time he suggested that, since the dropout rates of black students attending white colleges were slightly lower than would be predicted from their high school grades and test scores, colleges could afford to introduce additional criteria--criteria that would promote the admission of minority students and thus make for greater racial integration in collegiate institutions--without damaging their images or lowering their performance standards.[5] Astin commented that higher educational institutions might better serve society if they aimed not at picking "winners"--i.e., those students whose abilities and past achievements virtually guaranteed that they would persist in college --but at admitting those students most likely to benefit from their programs. The second conference, Barriers to Higher Education (CCEB, 1970) centered on open admissions, with particular attention given to admissions standards that penalize students from disadvantaged backgrounds.

These conferences centered on discrimination in the admission of minorities, but many of the same questions arise with respect to women: Do admissions standards and practices in higher education affect women adversely; and if so, what aspects of the process have negative consequences, and in what ways are women affected? Unfortunately, no national statistics on the ratio of acceptances to applications exist that would permit us to assess the extent to which women are discriminated against by not being accepted on the same basis as men. Our earlier review on rates of participation made it clear that women are disproportionately enrolled in certain types of institutions and programs, but to what extent that imbalance implies that other types of institutions reject women applicants is not known. We will review the best evidence available, however, in an attempt to clarify the situation somewhat.

In "Institutional Barriers to Women Students in Higher Education," (1973), Pamela Roby, confronted with the same lack of national statistics, suggested that one might approach the situation somewhat differently in order to ascertain, though only partially, what is happening to produce lower participation and attainment rates among women. She observes that since women graduate from high school with better grades than men and ~~that they~~ also make better grades in college, their lower participation in college and later in graduate or professional school could result from institutional policies to maintain higher standards for the admission of women than men. Her solution is simply to admit more women, since women perform better. Roby does not deal, however, with applications and acceptances. That is, how many female high school graduates actually apply to college, and how many female college graduates apply to graduate or professional school? Our review of the data on aspirations shows that, at every level of the educational system, women have more modest aspirations than men do. Perhaps, rather than relying solely on admissions procedures, postsecondary institutions should develop stronger recruitment programs to attract women.

One study specifically designed to examine differential practices resulting from bias in admissions was that conducted by Walster, Cleary, and Clifford (1970). Specifically, the investigators were interested in learning whether an applicant's race or sex affected the likelihood of his/her being admitted to college. They predicted that a black applicant of either sex would be preferred to a comparable white candidate and that, independent of race, men would be preferred to women. Identical applications--except for variations in the race, sex, and ability level of the applicant--were submitted to 240 randomly selected institutions; acceptance or rejection constituted the dependent variable. All other things being equal, men were more frequently accepted than women, and this was particularly so among students at lower ability levels. The authors concluded that women are more likely to be discriminated against in college admissions when they are of modest ability; since more people of both sexes are of average or low ability than of high ability, such discrimination penalizes women more often than it does men.

To learn whether women apply to as many different institutions as men do, and whether they get accepted in equal proportions, we examined data gathered from freshmen entering colleges in 1973. As table 48 indicates, the proportions of men (20 percent) and of women (19 percent) who applied to three or more colleges were about equal. Since 16 percent of each sex were accepted at three or more institutions, and since slightly fewer women submit this many applications, women fared slightly better than men in terms of acceptances. Nevertheless, close to half of each sex applied to only one institution, and in this case, women did not do as well as men: 6 percent of the men and 7 percent of the women were rejected.

As chapter 2 indicated, women are not enrolled in selective institutions proportionate to their representation in the college population. To clarify this situation, we analyzed 200 profiles of students from the fall 1975 entering freshman class. The CIRP survey asked students to list the names of three other institutions to which they had applied and to indicate whether they had been accepted or rejected. Since students attending selective ~~institutions~~ INSTITUTIONS are more likely to have applied to one or more institution, we chose for analysis a sample of 20 selective institutions, including public and private universities and private four-year colleges (see list in appendix C) and then selected a random sample of 100 men and 100 women from these 20 institutions; the only criterion for inclusion was that the student named three other institutions to which he/she had applied. Those institutions were then coded by a selectivity index representing the mean Scholastic Achievement Test (SAT) score (mathematics and verbal combined) of all students attending that institution.

Table 49 shows the proportion of students who had applied to institutions at each selectivity level and the rates of acceptance, separately by sex. The 200 students in the sample had applied to about 233 different institutions; very few had applied to institutions at the two lowest selectivity levels. Approximately equal members of men and women had applied to institutions at the top three levels; women applicants outnumbered men applicants at the first and third levels, and men outnumbered women at the second level. At each level, a higher proportion of women than of men were accepted. This finding confirms, in part, the findings of Walster, Cleary, and Clifford reported earlier in this chapter: That is, highly able women (such as the women in this sample, who were enrolled in selective institutions) fare well in college admissions. If sex discrimination occurs, it is probably among less able students.

Another exploratory study was carried out to identify those factors most important to students seeking admission to colleges and universities and to determine which factors operate differentially for men and women. The technique used was multiple regression; analyses were carried out separately for each of four groups: white women (N=609), white men (N=846), nonwhite women (1,062), and nonwhite men (N=991). All the students in the sample were under 30 years of age. The predictor variables included both student characteristics[6] and relevant institutional characteristics. The dependent variables were (1) number of applications to college a student had made, and (2) distance from home of the institution the student had enrolled in. Our premise was that women who applied to several colleges and who were willing to enroll in institutions some distance from their home were also women willing to enlarge their options. Thus, we wanted to identify the characteristics of those women and to compare then with those of men, separately for white and nonwhite students.

Our findings for the dependent variable of submitting multiple applications were as follows. White women who applied to four or more institutions differed from those who applied to fewer institutions in that they had higher degree aspirations, were more likely to come from Jewish backgrounds, and were somewhat younger. They were also more likely to plan on a career as a medical doctor, to say that the opportunity for rapid advancement was a reason for choosing a career, and to have liberal views about appropriate roles for women[7]. They were also likely to have highly educated fathers.

In contrast, nonwhite women who made multiple applications were more likely than those who did not to have highly educated mothers. Further, they tended to cite the availability of financial aid as an important reason for their choice of an institution, to choose selective institutions, to plan on a career as a medical doctor, and to be unmarried and not dating at the time of the survey.

Of the men who submitted multiple applications, the white men tended to come from Jewish backgrounds, to have highly educated mothers, to have high degree aspirations, and to enroll in predominantly male, selective, affluent institutions. Nonwhite males who submitted multiple applications presented a somewhat different picture: Like the whites, they tended to have high degree aspirations, and highly educated mothers. In addition, however, they were distinguished from nonwhite males who did not make multiple applications by planning on careers that would enable them to contribute to society and by having liberal views regarding sex roles. They were likely to say that the advice of a counselor was an important factor in their choice of a college, as was the availability of financial aid (also true of nonwhite women submitting multiple applications). They planned to work while in college and felt they might have to drop out of college temporarily because of financial constraints. In short, they emerged as highly motivated, liberal, and socially concerned students who face financial problems but have ways of dealing with them.

For the second dependent variable--attendance at a college away from home--distance between home and college was assessed on a scale of five miles or less to more than 500 miles. The further the distance of their college from home, the more likely white college women were to report that they had been accepted at more than one college, that their fathers were well-educated, that they had high degree aspirations, and that they came from other than a Catholic background.

In addition, they cited intrinsic interest as a motive in their career choice, and the reputation of the college as an important reason for their choosing it. Nonwhite women attending colleges far from home were likely to report that both their parents were well-educated, that they planned careers in the arts, and that they gave high priority to the life goal of influencing social values. They frequently expressed financial concerns and indicated that the availability of financial aid was an important consideration in their choice of college.

The impression that one gets of the women, white and nonwhite, who were willing to apply to a number of colleges and to enroll in a college distant from their homes is that they were highly motivated, and career-oriented. Finances obviously created problems for the nonwhite women in this group--not surprising, since they were living away from home and attending relatively selective institutions. Our analyses do not allow for causal inferences: That is, it is impossible to say whether willingness to make multiple applications and to live away from home opens up options in college and career choice that these women might not otherwise have considered, or whether initially high degree aspirations and career plans give them greater freedom to move out and upward. We can say, however, that highly motivated women are also more imdependent and more willing to consider multiple alternatives, thus enlarging their opportunities.

Admission Criteria

It has been charged that the criteria which higher educational institutions use as a basis for admissions discriminate against women. Before such a charge can be substantiated or dismissed, it is necessary to know just what admissions criteria various institutions do use, and then to decide whether the application of those criteria might work to exclude women. To this end, then, we examined information on admissions criteria provided to us by eight institutions: four technological institutes and four four-year colleges. The overall impression that emerged from this analysis was that institutions either do not keep very good records of applications and acceptances or are unwilling to reveal them. Nonetheless, it seemed generally clear that the grades the student earns and the courses he/she takes in high school are important considerations in admissions. Since girls generally make better grades than boys, they have the advantage on the first criterion. But since they are usually poorly prepared in mathematics and sciences--courses that the technological institutes particularly emphasize--they are at a disadvantage on the second.

The following are brief descriptive profiles based on the information (often inadequate) we received from each of the institutions.

Institution A was a state-supported, coeducational technological institution offering a four-year program. Women constituted 28 percent of the enrollment. Overall, the ACT scores of men were better than those of women enrolled in this institution: 85 percent of the men, and 80 percent of the women, made a score of 25+ on the ACT; 15 percent of the men and 19 percent of the women scored 16 or less. But 71 percent of the women had high school grade averages of 3.5, compared with only 50 percent of the men.

Institution B, another technological institution, required at least a 2.0 high school grade average and looked for a strong math and science background in its applicants. ACT or SAT scores were not used for admissions but served as aids in course placement and guidance. Women constituted 32 percent of the students.

Institution C, an engineering institute, required a 2.0 or better high school grade average, in addition to four years of English and two years of algebra in high school. Test scores were not considered an important criteria in admissions. Of 151 applicants, 94 percent were men, and 6 percent were women.

Institution D, a technological institute, required an SAT-Verbal score of at least 450, and an SAT-Math score of at least 500. A high school grade average of at least 2.4 is required. In addition, students must have taken courses in mathematics, chemistry, physics, and general science. Of the students accepted in the fall of 1975, 16 percent were women.

Institution E, which of all the four-year colleges provided us with the most complete admissions information, claimed that the chief criterion was high school performance as measured by grades, followed by class rank and SAT scores. For the total institution, 73 percent of the male applicants and 68 percent of the female applicants were accepted in 1975. There were, however, differences by school. Thus, women fared better than men in the School of Allied Health (56 percent of the women, and 35 percent of the men, who applied were accepted) and in the School of Education (73 percent versus 60 percent). Women also did slightly better in the two schools that were predominantly male: In the School of Engineering, 83 percent of the male applicants and 84 percent of the female applicants were accepted; and in the School of Management, 66 percent of the male applicants and 68 percent of the female applicants were accepted. In the College of Liberal Arts, however, 76 percent of the female applicants and 78 percent of the male applicants were accepted.

Institution F requires a 3.1 high school grade average, plus the following course preparation: one year of history, three years of English, two years of math, one year of a laboratory science, two years of foreign languages, and one or two years of advanced courses. Test scores were considered primarily in the case of applicants with grade averages between 3.0 and 3.09. Women constituted 46 percent of the enrollment.

Institution G considered high school grades ("a strong B average") and courses taken (four years of English, three years of foreign language, three years of math, two years of laboratory science, and two years of social science) the most important criteria. Use of test scores in admissions was optional. Recommendations and personal interviews were emphasized. Women constituted 51 percent of the enrollment.

Institution H required a 3.0 average for admission; SAT scores were not considered. No information on male/female ratios in either applications or enrollments was given.

Obviously, women were at a disadvantage in applying to technological institutions because of the strong emphasis placed on mathematics and science, in which women are generally deficient. But it is curious that women fared so badly, in terms of proportions of applicants accepted, at the single four-year college that privided us with fairly complete information, particularly since the institution claimed to give primacy to the criterion of high school grades.

Another type of information was available to us through interviews with admissions officers at 19 Exxon-study institutions[8]. When asked if an applicant's sex was considered in the admission process, eleven said that it was not. Two reported that, because of housing limitations, they did take sex into consideration; another reported that this had been the case with them in the past, before co-ed housing was introduced. One officer reported that the institution had always enrolled more men than women and that if, in the future, they were to accept a larger proportion of women, a decision might be made to hold a balance between the sexes. One college had guidelines that dictated a maximum male enrollment of 3,000 and a minimum female enrollment of 1,000; further, they considered applications separately for each sex. Another admissions officer reported that they accepted the same proportion of male and female applicants and that more men than women applied. Of the three remaining institutions, one was single-sex, one was attempting to recruit men, and one was recruiting women.

Housing limitations, the maintenance of a balance between the sexes, enrollment quotas, and proportional acceptances can all constitute discriminatory practices in cases where a large number of highly qualified women apply to an institution; some of them may find themselves rejected in favor of less-qualified male applicants. Only one institution in the Exxon sample was taking the affirmative step of actively recruiting women.

The two efforts to examine admissions practices reported in this section were both based on inadequate samples and serve only to suggest possible directions for a larger-scale and more systematic examination of stated admissions criteria, their application, and their effects on the sexes--especially their possibly detrimental effects on women applicants.

Admission to Graduate and Professional Schools

A number of research studies have been directed at the question of whether women are discriminated against in graduate and professional school admissions. For instance, Bichel, Hammel, and O'Connell (1975) observed that applicants fared best in departments that required preparation in mathematics since there were fewer applications to such departments and thus a greater likelihood of being accepted. Relatively few women, however, apply to such departments; most apply to departments that have very high application rates; thus, women do suffer in admission to graduate study. The authors concluded that this differential pattern cannot be blamed on discriminatory institutional practices but rather must be attributed to earlier socialization that produces differences in the kinds of courses taken in high school. The fields that women are prepared to enter tend to be overcrowded, to have low degree completion rates, and to offer poor job prospects.

Retrospective studies of graduate students (~~NIH~~ Resource Analysis Branch, 1968; Centra, 1974) and medical students (Campbell, 1973) indicate that women in these groups feel that they were discriminated against both in admissions and during their training. The NIH report was based on a study of college graduates of 1961 who went on to graduate school. It revealed that women faced three major obstacles to entry: financial difficulties, family responsibilities, and lack of an available graduate program . Women graduate students also cited a number of changes they felt would encourage the entry of more women into scientific and medical fields. They included: allowing part-time training, providing day care facilities or allowances, increasing training stipends, and giving greater recognition to women in these fields (NIH, 1968). As regards their graduate school experiences, 15 percent of a sample of women doctorates, compared with 5 percent of the men, mentioned sex discrimination in admissions (Centra, 1974). Campbell's report on women in medical schools--which is more a case-study exploration than a sample survey study--not only categorizes and documents forms of discrimination but also suggests coping mechanisms. The study reports that recruitment and admissions represent one of the forms of discrimination experienced by women in medical schools.

In 1972, the Task Force on the Status of Women in Psychology (TFSWP, 1972) surveyed over 100 psychology departments in an attempt to identify discriminatory practices against women students and faculty. Asked to indicate what criteria were used to assess an applicant's motivation, most departments mentioned letters of recommendation as the most frequent criterion. Yet much evidence suggests that letters of recommendation often contain sex-biased statements that may adversely affect a woman applicant's chances. For instance, one study of sexism in graduate admissions tallied sexist comments that implied a lower level of expectation for women (e.g., "it would be good for a woman" or described "marriage may deter her") traits irrelevant to graduate study (e.g., physical attractiveness: "she is a tall blonde"; marital and family status: "she has no children to keep her preoccupied"). Only one of the 85 letters of recommendation for male cadidates contained what might be regarded as a sexist comment, compared with 11 out of 38 letters of recommendation for women candidates (Lunnenborg and Lillie, 1973).

Whether an institution permits part-time study at the graduate level is crucial for women students who have family responsibilities. Many female college graduates who would like to but do not pursue graduate studies or who start graduate studies but then drop out indicate that family responsibilities and pressures are the major reason (El-Khawas and Bisconti, 1974). Over one-third of the psychology departments surveyed by the Task Force indicated that they do not allow part-time graduate study (TSFWP, 1972).

Lewis Solmon (1975), looking at the ratio of graduate school acceptances to applications, found that, overall, women applicants were somewhat more likely to be accepted; in topranking schools, however, the acceptance rate for men applicants was higher. The Graduate Record Examination (GRE) scores of those men tended to be higher than those of the women, suggesting that the pool of highly qualified men applying to these schools is larger than the pool of highly qualified women who apply. Solmon's data also confirmed the finding, reported earlier in this chapter, that the larger the pool of applicants, the lower an applicant's chances of being accepted, even after test scores are taken into consideration.

SPECIAL PROGRAMS AND PROBLEMS

In chapter 1, we defined educational access as encompassing not only entry into a postsecondary institution but also progress and attainment. Once enrolled, the woman student often faces problems that simply do not confront the male student. These include her need for gynecological services, child care, and athletic programs and facilities. On another level, women need role models and, in some cases direct encouragement. If these needs are not satisfied, she may become discouraged and drop out. Thus, the absence of special facilities, together with hostile or indifferent attitudes, can inhibit women's progress and persistence and thus may be said to fall in the category of discriminatory practices.

In our content analysis of 119 institutional catalogs (discussed earlier in this chapter), we found that gynecological services were available in only 6 percent of the four-year institutions and in none of the two-year institutions and proprietary schools. National Student Association figures indicate that, in 1972, 53 percent of all college and university health services did not provide gynecological services, and 72 percent did not prescribe birth control for women (Project on the Status and Education of Women, 1972) Campbell speaks out strongly on this issue: "If complete general health care is offered to men, but women must go outside the health service (physically, financially, or by delayed appointment) for care for uncomplicated medical problems of the sexual-reproductive system, this is discriminatory "(Campbell, 1973, p.15). A Project newsletter devoted to health services proposes the following:

> One ideal solution to the problem of providing health services to women (and men) which will meet medical and other needs relating to sexuality involves the establishment of a complete birth control and sex counseling clinic within the school health system. Only then can the whole problem be handled in a comprehensive, equitable, and feasible manner for all students, and within the student's financial means and geographic accessibility. [Project on the Status and Education on Women, 1972, p.9]

Related to health care is the issue of providing psychotherapeutic services appropriate to the needs of women students. Women need counselors and therapists who are cognizant of and sympathetic to their special problems, anxieties, and conflicts, and who are not bound by stereotypic conceptions of women and their place in society.

In a culture where the mother has primary responsibility for her children, child care services operated in conjunction with postsecondary institutions can make the difference in a woman's entry into and persistence in school. But such services were rarely available in our sample of institutions: Only 11 percent of the two-year colleges and 2 percent of the four-year colleges provided child care.

Recently, women's athletic programs and facilities and their funding have been topics of fierce controversy (see Rubin, 1974; ~~Sandler~~ Project on the Status and Education of Women, 1974). Men have for many years been favored in this area, receiving special privileges because of their athletic skills and preparation. For example, outstanding male athletes are typically given large scholarships. Moreover, money is poured into male athletic programs and varsity sports, which are, of course, a big business at some institutions. Women have not until recently received athletic scholarships, and their athletic programs have been slighted. Now, with new guidelines for implementing Title IX regulations, the imbalance may be redressed.

More difficult to pinpoint than deficiencies in, or lack of, special programs are the various subtle ways in which certain college environments seem to discourage women's aspirations and lower their self-esteem. Using longitudinal CIRP data on white men and women to assess how institutions may affect the student's aspirations, Drew and Patterson (1973) found that, for men, the best predictor of aspirations at the end of freshman year was their academic self-concept; whereas for women the best predictor was actual aptitude. Planning to get married while in college negatively affected women's degree aspirations. The authors concluded that, if women are to aspire to higher levels of education, they need some external validation such as comparisons between their performance and the average performance of their age cohort nationally.

Other studies (Davis, 1969; Dickerson, 1974; Holmstrom and Holmstrom, 1974; and Tidball, 1973[9]) have dealt with the importance of role models and of faculty attitudes toward women students in inhibiting or enhancing the educational progress of women. These show, for instance, that many women students believe that the male faculty members do not take them seriously (Holmstrom and Holmstrom, 1974; Feldman, 1973). Moreover, women graduate students considering withdrawal from school often cite pressure arising from this lack of acceptance as their reason. Women students do not usually have the same mentor-protegee relation with a professor that men students do and are thus deprived of an important support in their development as scholars, and researchers. Epstein (1970) maintains that the male faculty member does not develop this relationship with his female students because he does not believe they are adequately committed or capable of becoming his successor. Davis (1967), after informal interviews with professors in sociology and anthropology concluded that male faculty members typically have a negative image of women scholars, seeing them as holding lesser or minority positions in the field, as less productive of publications that contribute to academic knowledge, and as less likely to be hired as professors in prestigious institutions. Another reason that the mentor-protegee relation fails to develop, it has been suggested, is fear of jealousy and resentment on the part of both sponsor's and student's spouse.

Further accounts of subtle forms of discrimination against women are documented by Schwartz and Lever (1973) and by Bernard (1975). Schwartz and Lever reviewed the experiences of undergraduate women at Yale as they began to enter that male domain. Bernard categorized types of male behavior that have discriminatory consequences for the development of women during graduate and professional study and later, pointing out that lack of encouragement and support can affect a women's self-image and, in turn, her ability to persist in graduate school until her training is completed. Freeman tested the "Hypothesis of the Null Environment" at the University of Chicago, maintaining that "an academic situation which neither encourages or discourages students of either sex is inherently discriminatory against women because it fails to take into account the differentiating external environments from which women and men students come" (Freeman, 1972, p.3). She found that far fewer female than male students thought that male faculty approved of women's taking advanced study, and fewer still thought that male faculty approved of their having a career. Though many articles have been written on the subtle forms of discrimination that operate in faculty student relations, they are chiefly subjective, anecdotal, or speculative. Systematic studies designed to document existing subtle forms of discrimination and to analyze their effects on women are needed.

Other aspects of postsecondary institutions that may affect women include the availability of housing facilities and the regulations that govern them, graduation requirements, and single-sex clubs or societies. Under pressure from Title IX (see Buek and Orleans, 1973), many institutions may begin to reexamine their policies and practices with the intention of initiating changes and reforms. Yet attitudes and institutional atmosphere are difficult to assess and almost impossible to legislate.

SUMMARY

The differential participation rates, progress, and attainment of the sexes can in part be explained by early socialization and by such factors as background and personal variables. Except perhaps for initiating more vigorous recruitment campaigns, institutions can do little to end inequities that stem from these factors. But a variety of institutional practices may also have an adverse effect on the educational access of women, and these are more amenable to change. Before educators can make changes, however, they must first become aware of discriminatory practices. In this chapter, we considered three different areas where reform is needed: information prior to the postsecondary decision, admissions criteria and procedures, and special programs and problems.

In high school, as students consider and reach decisions about what they will do after graduation--including the all-important decision of whether they will continue their education; and if so, in what kind of institution--they may draw on a number of sources for information. First, they may turn to the people around them, including their parents, peers, teachers, counselors, and other adults. Most students feel that they themselves are primarily responsible for their decisions about high school programs and postsecondary plans. Girls seem more likely to discuss these matters with their mothers, boys with their fathers; in addition, girls are more likely to talk with relatives, teachers, and counselors. Racial/ethnic differences seem somewhat stronger that sex differences, however in that minority students are more apt to look to others for advice and to feel that counselors influence their plans. Generally, the role of counselors is somewhat ambiguous: relatively few students go to them for advice, and even fewer feel that counselors influence their plans. Moreover, the student's satisfaction with the postsecondary decision bears no relation to his/her discussions with the guidance counselor. Black men are generally most satisfied with the quality of the counseling services in high school, and white men slightly less so. But only 54 percent of the white women and 41 percent of the black women rate the counseling services as good or excellent.

Scores on tests-and particularly on interest inventories that purpose to measure the student's propensities and orientation toward particular occupations--are another source of information that the student may use in making decisions about the future. But such inventories have lately come under severe criticism on the grounds that their empirical development limits their value for women; indeed, because they offer her relatively few occupational options, they may have a restrictive rather than a broadening effect on her thinking about alternatives. Moreover, the manuals that accompany these tests and are used by counselors in interpreting results often contain sex-biased statements.

Other guidance materials are hardly less free of sex bias. For example, men predominate as "career representatives" in the illustrations in occupational encyclopedias such as the widely distributed Occupational Outlook Handbook. Moreover, they are usually depicted performing exciting and challenging tasks (often in outdoor settings) working autonomously, and looking serious and dedicated. Women, on the other hand, are usually depicted as inactive, working as assistants or helpers, and smiling; few are shown in outdoor settings. More recent editions of these occupational handbooks have corrected some of the racial/ethnic bias that earlier editions contained, but they have done little to improve their treatment of women. A question arises here: Should such materials portray the world of work as it is (in which case, there would be more pictures of women as career representatives, but chiefly in lower-level positions) or as it should be (in which case, women might be depicted more frequently as representatives of high-level careers, though in fact they are underrepresented at these levels in the work force). In addition to male-slanted illustrations, the text in these occupational guides is usually addressed to men, with the ubiquitous third-person masculine pronoun being used in those cases where the sex (of a student, of a career representative) may be either male or female. College admissions manuals follow similar usage.

Institutional catalogs--such as are available in most high school libraries or counseling centers--tend to devote far more space to men than to women, with four-year colleges and universitites being the prime offenders and proprietary schools the most equitable in their treatment. Further analysis of the content of these catalogs reveals that men predominate as faculty and administrators at collegiate institutions, particularly at the higher levels; again, proprietary schools are somewhat more equitable with respect to the sex distribution of faculty and administrators. According to institutional catalogs, special services for women--e.g., gynecological care, child care facilities, women's studies curricula--are rare at most types of institutions. Thus, despite their affirmative action statements, most institutional catalogs exhibit sex bias.

Though the research literature contains few studies of sex discrimination in college admissions, one existing study of 240 institutions indicates that all other things being equal, male applicants stand a better chance of being accepted than female applicants and that the sex differential is particularly strong among students of average or low ability. This finding was substantiated in a exploratory study on the ratio of acceptances to applications: Highly able women fare well in the college admissions process, but those of lower ability may suffer discrimination.

Another exploratory study conducted for this project indentified the characteristics of women who apply to a number of colleges and who enroll in colleges that are a considerable distance from their homes--both of which may indicate high motivation, independence, and a willingness to consider a wide range of options. Regardless of race, these women were found to have higher degree aspirations and a stronger career orientation than college women who did not make multiple applications or enroll in colleges far from home. Moreover, they were likely to have well-educated parents. Concern about finance and the availability of financial aid were important determinants of college choice among nonwhite women.

An analysis of the criteria that four-year colleges and technological institutions use in admissions decisions indicated that the grades the student earns and the courses that he/she takes in high school are of prime importance. Women have the edge on the first criterion, since they generally make better grades in high school than boys do. On the second criterion, however, they are at a definite disadvantage, particularly when it comes to admission to technological institutions, which require a strong background in mathematics and science. More complete information is needed, however, on how these criteria (and others that institutions may use) actually operate.

Overall, women fare well in admission to graduate and professional schools except in the top-ranking programs, where more male than female applicants are aceepted. Letters of recommendation--a criterion frequently used at the graduate level--often contain sex-biased statements that may reduce a woman's chances of being accepted.

Finally, women face some special problems for which special solutions may be required. Institutional failure to accommodate to women's needs may result in lower educational attainment. Thus, the lack of gynecological services and child care centers, may lead women to drop out of school. A more difficult issue--because it is both harder to identify and harder to correct--is that of the institutional environment, particularly as mediated through the attitudes of male faculty members. Because of the low proportions of women on college faculties, women students have no role models to follow. Instead, they must turn to male faculty members, who often do not give them the support and encouragement they need. Evidence suggests (1) that male faculty members do indeed look down on women scholars, and (2) that this hostility or indifference is perceived by women students. Because they feel that they are not taken seriously, women may even consider dropping out of school. The lack of faculty acceptance has especially adverse effects on the woman graduate student; without the support of a mentor-protegee relation such as men frequently develop with faculty sponsors, the woman may simply be discouraged from continuing in graduate study.

FOOTNOTES - CHAPTER 4

1. The administration of financial aid is covered in the next chapter.

2. The data were analyzed by means of chi square, a statistical method that examines whether a relationship exists between two or more groups. A significant chi square indicates that a relationship does exist. Birk, Cooper, and Tanney found insignificant chi squares for all analyses between the 1972-73 and the 1974-75 editions of the OOH, indicating that there was little change between the two editions. Moreover, chi squares were significant by sex but not by race for both editions, indicating overrepresentation of one sex at the expense of the other. The same pattern of significant chi squares by sex but not by race was found for environmental setting, affect, theme, activity, and DOT classification.

3. Estimates of the socioeconomic status of the high school were based on a subjective evaluation of the economic status of the area from which each school drew the majority of its students.

4. Though this analyses was confined to only one of the six high schools, the catalogs in the library there were similar in quantity and comprehensiveness to those available at the other five. The white middle-class schools had more catalogs than the other schools, however.

5. Most institutions regard having a high dropout rate as bad for their image.

6. Data on student characteristics came from the 1973 CIRP survey of entering freshmen. For a more detailed account of the student

characteristics covered by the survey, see chapter 1, p. 14 of this report.

7. The item measuring these views was: "The activities of married women are best confined to the home and family." Respondents were asked to indicate agreement or disagreement with this statement, on a scale of 1 to 5.

8. These 19 institutions represent a sample of private liberal arts colleges that received funding from the Exxon Foundation to improve their management procedures. The Higher Education Research Institute also has a grant from the Exxon Foundation to study these institutions in depth before and after management changes have been implemented.

9. These studies are annotated in the bibliography.

TABLE 40--Number of times 1960 high school students discussed post-high-school plans with different persons, by sex: United States, 1960 (in percentages)

Persons	Less than three times		Three or more times	
	Men	Women	Men	Women
Father	29	32	71	68
Mother	22	13	78	87
Siblings	62	50	38	51
School Counselor	71	74	26	26
Teachers, principal	70	71	30	29
Clergy	88	89	12	12
Friends	23	12	77	88
Other adults	54	47	46	53

NOTE--Percentages are based on weighted Ns to represent the universe.

SOURCE: American Institutes for Research, Palo Alto, California, Project TALENT: The American High School Student, prepared by J.C. Flanagan, et al., (1964).

TABLE 41--Number of times 1960 high school students discussed concerns with teachers, principals and counselors during current year, by sex: United States, 1960
(in percentages)

Types of concern	Less than two times		Two or more times	
	Men	Women	Men	Women
College plans	49	54	51	46
Jobs after high school	62	61	38	39
High school work	51	57	49	43
Personal problems	80	84	20	16

NOTE--Percentages are based on weighted Ns to represent the universe.

SOURCE: American Institutes for Research, Palo Alto, California, Project TALENT: The American High School Student, prepared by J.C. Flanagan,et al., (1964).

TABLE 42--Persons reported having very important influence on the choice of high school program by 1972 high school seniors, by sex and ethnic category: United States, 1972
(in percentages)

Persons	Sex		Ethnic Category		
	Men	Women	White	Black	Hispanic
Self	87	91	89	89	86
Parents	27	32	26	50	45
Other relatives	5	6	4	16	8
Counselor	15	14	13	30	26
Teachers	9	10	8	19	17
Peers	14	16	14	22	22
Other adults	6	8	6	16	13

NOTE--Data were collected from a sample of almost 18,000 high school seniors. Actual Ns for each item vary.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W.B. Fetters (1975).

TABLE 43--Persons reported having very important influence on 1972 high school seniors' plans for after high school by sex and ethnic category: United States, 1972

(in percentages)

Persons	Sex		Ethnic Category		
	Men	Women	White	Black	Hispanic
Self	89	93	92	90	86
Parents	42	45	41	61	50
Other relatives	13	16	12	27	22
Counselor	9	9	7	21	16
Teachers	9	11	10	18	15
Peers	22	27	23	35	29
Other adults	15	20	16	24	22

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W. B. Fetters (1975).

TABLE 44--Persons having great influence on plans for after high school of 1972 high school seniors in academic programs, by sex, race,and father's education: United States, 1972 (in percentages)

Students	Persons				
	Parents	Other Relatives	Counselors	Teachers	Peers
Father less than high school graduate					
White women	39	16	10	11	20
Black women	62	31	28	18	41
White men	39	13	10	13	17
Black men	59	20	34	22	34
Father college graduate					
White women	55	12	8	11	24
Black women	52	14	6	12	12
White men	51	8	5	6	20
Black men	72	4	45	8	14

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by B. W. Thompson (1974).

TABLE 45--Persons with whom 1972 high school seniors frequently discussed their plans for after high school, by sex, race, and father's education: United States, 1972

(in percentages)

Students	Persons				
	Parents	Other Relatives	Counselors	Teachers	Peers
Father less than high school graduate					
White women	84	40	34	24	86
Black women	84	47	41	25	77
White men	78	31	29	20	69
Black men	70	29	34	27	65
Father college graduate					
White women	91	34	28	24	87
Black women	87	44	28	26	87
White men	84	23	25	17	75
Black men	94	22	64	14	74

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by B. W. Thompson (1974).

TABLE 46--A content analysis of sex and race representation in career guidance materials: U.S. 1975

Category		Occupational Outlook Handbook (OOH)		Encyclopedia of Careers and Vocational Guidance		Labor Force Participation
		Number	Percent	Number	Percent	Percent
Sex	Men	121	73	242	75	61
	Women	29	17	35	11	39
	Both	16	10	45	14	
Ethnic Category	Whites	113	69	267	90	89
	Blacks	29	18	8	3	11
	Asians	1	< 1	1	<1	
	Others	20	12	22	7	

SOURCE: Data were abstracted from an analysis of career guidance materials conducted by the Higher Education Research Institute (HERI) staff (1975).

TABLE 47--A content analysis of institutional catalogs: United States, 1975 (in percentages)

Content category	Institutions		
	4-year colleges or universities	2-year colleges	Proprietary Institutes
Total number of ½ pages	3124	468	238
Percentage devoted to men	23	16	14
Percentage devoted to women	>1	2	9
Percentage of catalogs including			
Affirmative Action Statements (AAS)	64	66	43
'Sex' in AAS	46	22	21
'Age' in AAS	13	-	7
Percentage of catalogs mentioning			
Continuing Education	46	44	29
Nondegree students	66	33	7
Extension	30	22	7
Women's Resource Center	2	11	-
Gynecological services	6	-	-
Day/child care	2	11	-
Men's varsity teams	52	55	-
Women's varsity teams	26	22	-
Men's intramurals	22	22	-
Women's intramurals	16	22	-
Women's studies	6	11	-
Degree in Women's P.E.	49	44	-

TABLE 47 --A content analysis of institutional catalogs--continued

Content Category	4-Year Institutions	2-Year Institutions	Proprietary Institutions
Percentage of Administrators (by sex)			
President			
Men	98	100	85
Women	2	0	15
Vice-President			
Men	93	100	83
Women	7	0	17
Middle-Level administrators			
Men	82	75	47
Women	18	25	53
Deans			
Men	90	86	42
Women	10	14	58
Associate Dean			
Men	68	72	-
Women	32	28	-
Counseling service staff			
Men	60	68	-
Women	40	32	100
Percentage of Faculty (by sex)			
Total			
Men	76	70	59
Women	24	30	41
Full and associate			
Men	86	77	-
Women	14	31	-
Assistant and lecturer			
Men	66	69	-
Women	34	31	-
Unranked			
Men	55	35	59
Women	45	65	41

TABLE 47--A content analysis of institutional catalogs--continued

Content Category	4-Year Institutions	2-Year Institutions	Proprietary Institutions
Departmental descriptions (references by sex)			
Math			
Men	22	33	-
Women	-	-	-
Both Men & Women	8	-	-
Unspecified	63	44	-
No mention	6	22	-
Biology			
Men	18	22	-
Women	-	-	-
Both Men & Women	8	-	-
Unspecified	69	44	-
No mention	4	33	-
Psychology			
Men	12	33	-
Women	-	-	-
Both Men & Women	2	-	-
Unspecified	82	33	-
No mention	4	33	-
English			
Men	41	11	-
Women	-	-	-
Both Men & Women	4	-	-
Unspecified	53	55	-
No mention	2	33	-
Business			
Men	14	22	-
Women	-	-	-
Both Men & Women	14	-	-
Unspecified	53	44	-
No mention	18	33	-
Education			
Men	43	22	-
Women	-	-	-
Both Men & Women	16	-	-
Unspecified	35	44	-
No mention	6	33	-

TABLE 47 --A content analysis of institutional catalogs--continued

Content Category	4-Year Institutions	2-Year Institutions	Proprietary Institutions
Illustrations (by sex)			
Percentage of men only	37	38	34
Percentage of women only	25	29	45
Percentage of men and women	37	33	22
Science labs			
Men	42	50	50
Women	6	-	50
Both	52	50	-
Business (Secretarial labs)			
Men	21	20	-
Women	29	20	78
Both	50	60	22
Auto/technical labs			
Men	60	100	100
Women	10	-	-
Both	30	-	-
Computer work			
Men	58	20	-
Women	8	40	100
Both	33	40	-
Art, Drama, Music			
Men	9	20	-
Women	15	-	50
Both	76	80	50
Home Economics			
Men	-	-	-
Women	80	-	-
Both	20	-	100
Radio station, Photography			
Men	78	50	100
Women	22	50	-
Both	-	-	-
Contact sports (football, hockey, soccer, basketball, baseball)			
Men	68	100	100
Women	4	-	-
Both	28	-	-
Noncontact sports (volleyball, softball, track, scuba, diving, riding)			
Men	32	20	67
Women	21	20	-
Both	46	60	33

TABLE 47 --A content analysis of institutional catalogs--continued

Content Category	4-Year Institutions	2-Year Institutions	Proprietary Institutions
Dance, other sports, exercise class			
Men	-	-	-
Women	67	100	100
Both	33	-	-
Professors			
Men	59	100	50
Women	5	-	10
Both	36	-	40
Administrators			
Men	100	-	83
Women	-	-	17
Both	-	-	-
Leisure (talking, studying student portraits, etc.)			
Men	5	-	-
Women	5	-	40
Both	90	100	60
Electronics, Drafting			
Men	40	100	50
Women	-	-	50
Both	60	-	-
Study, Class			
Men	5	-	10
Women	5	14	40
Both	90	86	50
Nursing			
Men	-	-	50
Women	60	100	50
Both	40	-	-
Child care, food service			
Men	27	33	100
Women	60	33	-
Both	13	33	-
Miscellaneous			
Men	54	50	17
Women	23	33	33
Both	23	17	50
At graduation			
Men	25	-	-
Women	6	-	-
Both	69	100	100

SOURCE: Data were abstracted from a content analysis of institutional catalogs conducted by the Higher Education Research Institute (HERI) staff (1975).

TABLE 48--College applications and acceptances as indicated by entering college freshmen, by sex: United States, 1973 (in percentage)

Number of colleges	Men		Women	
	Applied	Accepted	Applied	Accepted
Total	100	100	100	100
This college only	48	42	48	40
One other	19	26	20	27
Two other	15	17	14	18
Three other	9	9	9	9
Four other	5	4	5	4
Five other	3	2	3	2
More than five	3	1	2	1

NOTE--percentages are based on weighted Ns representing the universe. All columns may not total 100% due to rounding.

SOURCE: American Council on Education and the University of California at Los Angeles, The American Freshman: Nation Norms for Fall 1973, prepared by A. W. Astin, et al., (1973).

TABLE 49--Applications and acceptances of entering college freshmen, by sex and institutional quality: United States, 1975

Mean Institutional SAT score	Applications			Acceptance rates of those who applied	
	Total	%Men	%Women	%Men	%Women
1300 or more	N=126	48	52	43	46
1236-1299	N=170	59	41	70	74
1150-1235	N=148	47	53	71	73
1075-1149	N=154	55	45	86	89
998-1074	N=156	47	53	88	93
926-997	N=27	52	48	92	93
925 or less	N=25	56	44	73	93

NOTE--The sample was of 100 men and 100 women was drawn from freshmen entering 20 selective institutions, representing public and private universities and 4-year private colleges, in fall 1975.

SOURCE: Higher Education Research institute, an analysis using cooperative Institutional Research Program data (1975).

CHAPTER 5

INSTITUTIONAL PRACTICES: FINANCIAL AID

An institutional practice that merits special attention--both because it is a significant factor in access and attainment in postsecondary institutions and because it is currently the subject of considerable debate and discussion at the national level--is financial aid.[1] The availability of financial aid may make the difference in whether a high school student goes on to college as well as in the kind of institution that he/she selects. Once enrolled in an institution, his/her persistence may be affected by the type and amount of financial aid available. As chapters 3 and 4 indicated, women--and particular minority women--often have serious concerns over their ability to finance their postsecondary education, so the availability of financial aid is particularly crucial for them.

In this chapter, then, we will look first at the various sources of finance for postsecondary education and the extent to which each sex draws on them, as well as various problems that may arise for women in using these sources. The next section gives an overview of institutional policies and practices with respect to financial aid. Then, various patterns in the distribution of financial resources are considered: in collegiate institutions, in proprietary institutions, and in graduate programs.

Historically, American society has given higher priority to the education of men than to the education of women, and this emphasis has been apparent since precolonial times, though the development of elementary schools, high schools, and colleges and universities; only gradually were females admitted into each level of the system. Even today, that priority is apparent in the differential aspirations of men and women and in their differential attainment at each higher level of the system (as reported in chapter 2). To cite just one statistic that epitomizes the disparity between the sexes: Bengelsdorf (1974) reports that, of the qualified young people who do not go on to college, from 75 percent to 90 percent are women.

To a large extent this situation results from the societal expectation that men will have responsibility for supporting their families whereas women will be taken care of by their husbands. Implicit in this assumption is the belief that some form of postsecondary education will increase the options and earning power of men. Thus, education for men is considered a virtual necessity, whereas education for women is regarded as luxury or frivolity. Such societal expectations and assumptions die hard. In point of fact, statistics from the Women's Bureau of the U.S. Department of Labor give the following picture of the situation in March 1973: Of the nearly 35 million women in the labor force, 7.7 million were single; 6.3 million were divorced, separated, or widowed; 3.7 million has husbands whose 1972 income was below $5,000; and 3 million had husbands whose 1972 incomes was between $5,000 and $7,000. In short, most women work not to fill their idle hours or to buy themselves luxury goods, as is often assumed. Most women work for the same reason that men work: to support themselves and their families. Yet women are concentrated in low-paying "female" fields. Postsecondary education and training can provide women with skills and competencies that will increase their access to higher--status fields and thus increase their earning power. As work becomes increasingly technical, and as field which have traditionally employed women convert to automation and thus reduce their demand for workers, women without adequate advanced training will be unable to find employment. Postsecondary education not only prepares women for the world of work but also prevents the underutilization or loss of talented people with high potential.

Nonetheless, outmoded beliefs and attitudes persist, with the result that young women continue to underestimate their need for education, families--particularly low-income families--continue to give precedence to educating their sons, and educators at all levels continue to ignore the needs of women and to formulate policies that favor men.

SOURCES OF FINANCE

Young people typically draw on a variety of sources to finance their postsecondary education, including their parents, spouses, their own earnings and savings, student aid programs such as College Work-Study, scholarships, and grants, loans, and G.I. benefits. In addition, the low- or no-tuition policies of some public institutions may be considered a kind of financial aid.

Parental aid is the source with the longest history and continues to be the major source for most students. According to Astin:

> For nearly 65 percent of the white women, parental aid is a major source of support for their freshman undergraduate year, while only 16 percent received no parental support. For 47 percent of the men, parental aid is a major source, while for only 28 percent it is not. Blacks are somewhat

> less likely than whites to rely on parental aid: only 33 percent depend on parental aid for major freshman support. [Astin, 1975b, p.6]

One implication of this greater reliance of women (at least white women) on their parents for financial support in postsecondary education is that it makes them more generally dependent on their parents, more vulnerable to parental pressures and wishes, and thus reinforces their passive, submissive role. A second implication is that women from low-income families are at a particular disadvantage. If they must rely chiefly on their parents because no alternative sources of finance are available to them, then it is likely that they will simply not go to college, both because their parents do not have money to send them and because low-income families are particularly apt to regard postsecondary education for their daughters as unimportant. With respect to impact, Astin (1975b) found that, except for women from high-income families, parental support generally increase the student's chances of completing college.

Support from spouse is relevant for only a small proportion of undergraduates. It has been found that, if students who are married when they enter college (about 2 percent of each sex) received major financial support from their spouses, their chances of dropping out are greatly reduced. If they receive only minor support from their spouses, however, their dropout rates increase; they would be better off receiving no assistance from this source. If students get married while in college, assistance from their spouses, in whatever amount, increases persistence; generally, such students continue to rely on other sources for major support.

Earnings from employment and savings are another means by which students finance their secondary education, though these sources are generally more helpful to men than to women. According to Bengelsdorf (1974), women get fewer opportunities for employment either during the school year or in the summer; and, if they do find jobs, they receive lower wages than men. Bureau of the Census (1975) data show that 83 percent of high school boys age 16 and over expected to earn some money between July 1973 and June 1974, in contrast to 67 percent high school girls. Furthermore, one third of the girls expected to earn under $1,000.00, while only 15 percent of the boys expected such low earnings; indeed 38 percent expected to make $7,000.00, or more during the year, compared with only 18 percent of the girls.

One study of college dropouts (Astin, 1975) found that a student's chances of completing college were significantly influenced by the type and extent of employment she/he has. The ideal job for a college student would seem to be a part-time, on-campus job. Astin (1975b) also found that reliance on savings or other assets decreased the student's chances of completing college.

Work-study programs, a major component of Federal financial aid policy since the Higher Education Act of 1965, affect relatively few students: Of 1968 freshmen followed up in 1972, 13 percent of the women and 9 percent of the men reported having participated in federally sponsored work-study programs (Astin, 1975b).

Friedman, Sanders, and Thompson, (1975) found evidence of sex discrimination in work-study programs: Men were about twice as likely as women to hold high-level jobs regardless of their college class, major field, or grade average. Half the women had low-paying clerical jobs. Yet even when men and women were employed at similar jobs, men were usually paid more than women. Women students were more easily satisfied with their jobs, a finding that the investigators attribute to early socialization, which leads women to expect and to be satisfied with lower-status, lower-paying, typically "female" jobs. Westervelt (1975) confirmed the finding that women in college work-study programs get lower-paying jobs and added that they generally get less help in finding employment than men do; to document this latter statement, she cites the situation at the University of Chicago where, in 1969, 30 percent of the women and 36 percent of the men got help from faculty members in finding jobs and where 64 percent of the men, but only 49 percent of the women, found jobs relevant to their major fields.

Participation in Federal work-study programs seems to reduce the student's chances of dropping out, and this is particularly true among women, blacks, and middle-income students (Astin, 1975b). It may be that as a result of being less dependent on their parents for financial support, middle-income women who participate in these programs develop an increased sense of self-confidence and autonomy which strengthens their motivation and enhances their persistence.

Scholarships and grants are, to a lesser extent, associated with increased persistence (Astin, 1975; 1975b), although the effects are confined chiefly to women from low-income families. The Basic Educational Opportunity Grant (BEOG) program, created in 1972 by Federal legislation, was intended to guarantee each student a "financial floor" in meeting college expenses. But current limitations--Congressional failure to appropriate sufficient funds, a provision that specifies that the BEOG grant cover only 50 percent of total yearly college costs, and dependence on a family contribution--have resulted in grants so small that the guarantee of equal access to postsecondary education for all students becomes meaningless. The requirement of a parental contribution may create insurmountable problems for women whose parents see no value in educating their daughters and are thus unwilling to make the contribution; the effect is particularly severe for women from low-SES backgrounds.

Sex-restricted scholarships work to the disadvantage of women: "Sex-restricted awards available at men's colleges have exceeded both in numbers and amounts those available to women's colleges, largely because of the greater number, size, and wealth of the more prestigious men's colleges" (Westervelt, 1975, p.14). Although many of these prestigious men's colleges have begun to admit women, the proportions are still small. A more de facto form of discrimination in scholarship awards results from the concentration of scholarship funds in "male" fields, such as the hard sciences and engineering. Athletic scholarships represent another form of de facto discrimination in that they are far more available to men than to women.

Fellowships as well are more often awarded to men than to women: A survey of prestigious fellowship programs revealed that about 80 percent of the awards in nearly 70 of these programs were going to men (Attwood, 1972). This situation results less from sex bias on the part of those making the awards, however, than from women's lower participation rates in the competition for fellowships.

Westervelt (1975) notes possible sex discrimination in the awarding of National Defense Education Act (NDEA) fellowships: She cites testimony before the Special Committee on Education of the House of Representatives in 1970, which stated that, although women constituted one-third of the nation's graduate students in 1969, they received only 28 percent of the graduate awards under NDEA Title IV, and only 29 percent of the awards under NDEA Title VI.

Loans--particularly under two federally sponsored programs, the Guaranteed Student Loan (GSL) program and the National Direct Student Loan (NDSL) program--have become an important source of funding for postsecondary education. Students who want to attend a high-cost institution or an institution away from home are particularly likely to borrow. According to the Carnegie Commission on Higher Education (CCHE), however, the two Federal loan programs (1) are underfunded, (2) set too many limits on eligibility, (3) allow insufficient repayment time, and (4) have an unreasonable differential in interest rates--all of which in effect discourages students from applying for loans (CCHE, 1968; Wren, 1975). Moreover, as Richard J. Ramsden points out, these Federal programs may not give sufficient consideration to the problems of the woman student: "An ever-increasing proportion of women are going on to college and to graduate school and are borrowing to do so, yet the work patterns and income patterns of women differ from those of men. Whether present loan programs reflect sufficiently these differences, as well as differences in the ability to repay, is doubtful" (ACE, 1975, p.7).

In the past, banks have discriminated against women attempting to obtain commercial loans. The effects of recent legislation designed to prohibit such discrimination have yet to be felt.

The current Federal emphasis on loans to finance college education may fail to allow for the reluctance of many students--and particularly women--to incur large debts. A ten-year follow-up study of 1961 freshmen (El-Khawas and Bisconti, 1974) shows that men were more likely than women to borrow for their undergraduate and graduate education, and twice as likely to take out loans of $4,000.00 or more (4 percent of the men and 2 percent of the women at the undergraduate level; 6 percent of the men and 3 percent of the women at the graduate level). Women faced with the prospect of earning money to repay a loan in a job market that discriminates against them may justifiably be unwilling to borrow heavily. Moreover, if they expect to spend some time out of the labor force raising a family after college graduation, they may be even less willing to take loans.

Astin (1975b) found that reliance on loans negatively affected men's persistence in postsecondary education and had varying effects on women's persistence, depending upon the size of the loan and the income level of their parents. Loans, as a major source of support increased slightly the woman's chances of dropping out, especially if she came from a middle-income background. The explanation here may be that women from middle-income families who must rely on loans to finance their postsecondary education receive little support either psychological or financial, from their parents. Loans as a minor source of aid had a positive impact on the persistence of women attending public institutions and a negative impact on the persistence of women attending private institutions.

Military-related benefits are another type of financial aid that favors men. GI benefits are a source of support for about 6 percent of the male and 1 percent of the female undergraduates (Astin, 1975b). The new volunteer Army sets higher standards for women enlistees than for men. Thus, women must be better qualified, rather than equally qualified if they are to receive educational benefits under the GI Bill (Bengelsdorf, 1974). ROTC benefits are a source of financial aid for about 2 percent of the white male undergraduates and virtually none of the female undergraduates. Military academies are just beginning to admit small numbers of women applicants. It has been found that students relying on GI benefits were more likely to drop out, whereas those relying on ROTC stipends were more likely to persist.

Low or no tuition has been proposed as a variation on financial aid that will increase student access to postsecondary education. While such a policy may open up some public institutions, it will certainly not be adopted by elite private institutions, or indeed by less prestigious but nonetheless educationally effective private institutions that rely heavily on tuition as a source of revenue. Access involves more than a young person's being able to attend some postsecondary institution; it involves his/her being able to attend the institution that can best develop his/her individual talents. Thus, low or no tuition is not the answer to educational access.

To summarize: Women are more dependent on parental support than men; are less able to find good-paying jobs--either through college work-study programs or in the open job market--to finance their education;

receive less support from scholarships and grants; may for good reason be more reluctant to borrow; and are less likely to receive military-related benefits.

INSTITUTIONAL ADMINISTRATION OF FINANCIAL AID PROGRAMS

Data from interviews with financial aid officers at 20 institutions[2] from the Exxon study provides a rough sketch of the current situation with respect to institutional policies and practices in the administration of financial aid. Ten of these officers reported that the student's sex was not considered in awarding financial aid, two were from single-sex institutions, and four gave no information on this subject. Of the remaining four, two mentioned that in some cases, donors of awards specified the sex of the recipient. Two replied that sex was not a consideration; although the officers were aware that women usually earned less in the summer, they were still expected to provide the same amount of self-help as men. The last respondent said that the women students at his institution had less need of financial aid than the men students: "Wealthy parents may see this as a protective environment to send their daughter to." Although the sample is admittedly small, the insensitivity revealed by some of these responses may be taken as characteristic of all too many administrators in postsecondary institutions.

The institutional policy in this area that has perhaps the most adverse effect on women is the restriction of financial aid to full-time students. In the fall of 1974, the BEOG program had this restriction; only four state student aid programs provided eligibility for part-time students; and about one-third of collegiate institutions discriminated against part-time students in their programs of financial aid (Bengelsdorf, 1974). NDSL loans are available only to student enrolled half-time or more.

Overall, 25 percent of the women and 23 percent of the men enrolled as degree-credit students were part time (~~Digest of Educational Statistics, 1974~~ Grant and Lind, 1975). At public institutions, the gap was even wider: 29 percent of the women, compared with 25 percent of the men: At private institutions, the situation is reversed, with 13 percent of the women and 15 percent of the men enrolled part-time. Thus, the restriction is a stumbling block to both men and women, and it may become an insurmountable barrier to those women who must enroll as part-time students because of family responsibilities. Because of these responsibilities, they cannot enroll full-time, and by the same token they cannot take jobs to pay for their education. To make matters worse, many institutions charge higher tuition fees for part-time than for full-time study; a part-time student, therefore, not only has to pay more for his/her education but also has fewer sources available with which to meet these costs.

Other costs connected with postsecondary attendance affect women adversely, the most notable being child care. Lack of low-cost child care facilities or of financial aid to pay child-care expenses can prevent women from enrolling or persisting in postsecondary institutions. The situation is particulary acute for the single mother who needs training to become self-supporting but who cannot afford the costs of child care that will free her to receive that training.

One subtle form of sex discrimination is the bias that some people--

including, presumably, some who are responsible for distributing financial aid--have against married women, pregnant women, and women with children. They are quick to assume that these women will not be able to handle all their responsibilities and so will drop out.

Westervelt succinctly states the position of women vis-a-vis financial aid:

> In summary, female students at all levels generally have less access to financial aid than do male students. Some discrimination occurs before the point of application for aid, via the expressed attitudes of faculty and administration personnel. Other discrimination excludes women from certain types of aid, particularly aid associated with military service and athletic scholarships. Indirect discrimination takes the form of lack of financial assistance for the special needs of women such as child care, and legal restrictions on the domicile and contractual rights of married women. It is not surprising, therefore, that women are more apt than men to depend on aid from parents and spouses. [Westervelt, 1975, p.18]

HIGH SCHOOL SENIORS: PLANS FOR FINANCING POSTSECONDARY EDUCATION

What outside financial sources (that is, other than parental support and earnings from employment or savings) do high school seniors planning to continue their education expect to draw on? According to table 50, boys expected to draw on a wider range of sources than girls did. Slightly larger proportions of boys than of girls planned to make use of institutional loans or scholarships, military--related funds such as Veterans Administration benefits or ROTC program stipends, Law Enforcement Education program funds, and regular bank loans. More girls than boys indicated their intention of seeking state or local scholarships and loans, as well as scholarships and loans tied to nursing programs.

Asked to indicate their reasons for not planning to seek financial aid from outside sources (table 51), high school boys were more likely than girls to indicate reluctance to go into debt and confidence in their ability to finance their education through parental support or their own earnings and savings: they were, however, less likely to ~~felt~~ feel academically qualified to compete for scholarship funds. Girls were slightly more likely than boys to say they planned no further schooling. That girls feel less able than boys to depend on personal earnings or parental support may reflect their awareness of the higher societal priority placed on educating men and of the lower earning power of women. As high school seniors, girls may be less reluctant to go into debt because they see few other options available to them and because they expect postsecondary training to increase their earning power and thus enable them to repay the debt.[3]

Table 52 shows the expected sources of support for students planning to attend a four-year college or university, those planning to attend a two-year college, and those planning to take a correspondence course. More boys expected to rely on their own earnings, whereas more girls expected to rely on parents or spouse, loans, and college work-study programs.

NLS data confirm that boys were more likely to plan to work while in school and indicate also that they intended to work more hours per week than girls did (table 53).

In an attempt to find out whether sex or race affect eligibility for scholarships, the project staff submitted four fictitious applications--from a white male, a white female, a black male, and a black female--to a computerized financial aid information service. Unfortunately, the computer service provides a maximum of 25 award references to each applicant, so a comprehensive comparison of listings was not possible. A preliminary analysis revealed, however, that two scholarships were offered only to the men, two were available only to blacks, and one seemed to be open only to black women. None of the awards listed on the print-out seemed to be intended specifically for white women students. The question of differences in eligibility by race/ethnicity and sex needs to be studied more thoroughly, using a larger sample and a more exhaustive listing of scholarships and loans.

UNDERGRADUATE EDUCATION: PATTERNS OF FINANCIAL SUPPORT

Of the freshmen entering college in 1974, women were more likely to express concern about their ability to finance their education than were men: 16 percent of the women and 14 percent of the men reported major concern, and another 48 percent of the women and 45 percent of the men reported some concern (Astin et al., 1974). Women were more likely than men to be financially dependent on their parents: one in five entering male freshmen declared themselves to be financially independent, compared with 16 percent of the women. Somewhat surprisingly, the female freshmen were more likely to report estimated family incomes in the lower income ranges: 3 percent more women than men said their parents earned under $6,000.00 (Astin et al., 1974).

Table 54 shows the sources of financial support reported by men and women in the 1974 freshman class. Women clearly relied more on their parents and on local or private scholarships, whereas men relied more on full- and part-time employment. Table 55 shows the proportion of each sex who as undergraduates received support from each of four major sources--parents, scholarships, loans, and earnings from employment--and indicates as well the median dollar amount. Throughout their undergraduate years, women depended more on their families for support, and men more on earnings from employment. Although more women than men received scholarship and loan support, the awards to women were smaller than those to men.

Table 56 presents an analysis of the source and amount of financial aid received by students attending low-, medium-, and high-tuition institutions, controlling for sex and residence (living with parents vs. living away from home). Among students attending low-tuition institutions and living with their parents (the lowest cost option), men were less likely to receive parental support and more likely to rely on earnings from employment than women. The men in this group who did receive support from their parents, however, got about $500.00 more than the women. Although about one in three of each sex received scholarships, the median dollar amount awarded to men was twice that awarded to women. The pattern of loan support was more equitable: Nearly equal proportions of men and women received support from loans, and the amount awarded to men was only about $600.00 greater than that awarded to women.

Taking the next group--students attending low-tuition institutions and living away from home--we find that men were much less likely than women to receive parental support (a difference of 20 percentage points) and that, of those who did receive parental support, men got a median amount of almost $1,300.00 less than women. Though men were less likely than women to receive scholarship or loans, those who did got larger amounts of aid than women did. Men were more likely than women to support themselves from employment (a difference of 12 percentage points) and to earn annually a median of almost $900.00 more than women.

Many of the same patterns were found among students attending medium-tuition institutions. Men depended more on earnings from employment and less on parental support than women did. While the scholarship dichotomy was still evident (that is, larger amounts awarded to men), a dramatic reversal was evident for loans: Men living at home and taking loans obtained only two-thirds the amount obtained by women. Since this reversal occurs in no other category, it suggests a greater reluctance on the part of men to borrow money rather than discriminatory policies on the part of those making the loans.

Among students attending high-tuition institutions, the patterns were similar to those in the other categories, but the median dollar differences in scholarship and loan awards to men and to women were not a dramatic. Total financial aid for women moved to within 95 percent of the median for men.

In summary, the consistent differences in financial support patterns for men and women cannot be explained by simple variations in the distribution of the sexes across minority groups, family income, or college costs (including the costs of living away from home). With minor exceptions, more women than men were awarded scholarships and loans but in substantially smaller dollar amounts. In addition, men depended less upon their parents and more on their own earning power than women did.

These patterns may be taken to reflect larger societal attitudes toward the sexes. Women are generally regarded as dependent and in need of the protection and support of their families, whereas men are encouraged to be independent and to develop their entrepreneurial skills through ~~though~~ employment. Why men receive scholarship and loan support less frequently but in larger amounts than women is less readily explainable, as is the question of why men receive more total support. Perhaps they are judged to have a greater financial need than women, or perhaps they are simply more assertive in applying for aid and seeking employment. Whatever the answer, the discrepancies between the sexes with respect to financial support patterns clearly merit further investigation. Moreover, policy-makers must be made more aware of these sex differences.

PROPRIETARY INSTITUTIONS: PATTERNS OF FINANCIAL SUPPORT

Comparing proprietary school students with community college students,[4] whom they resemble most closely in SES and ability, we find that 13 percent of the men and 9 percent of the women in proprietary schools, as against 13 percent of the men and 14 percent of the women entering community colleges, expressed major concern over their ability to finance postsecondary education. About one in three proprietary school students (45 percent of the men, 29 percent of the women) were financially independent, in significant contrast to community college students, of whom 26 percent of the men and 23 percent of the women were financially independent; this difference between the two groups is understandable in view of the earlier finding that men in proprietary schools are likely to be older than the average entering college freshman. Over two-fifths of the proprietary school students of both sexes lived with their parents; of those who did not, men were more likely to be living in a private home or apartment, whereas women were more likely to be living in a college dormitory. These residential patterns contrast significantly with the patterns of community college students, three-fourths of whom live with their parents and another 10 percent of whom live in apartments or college dormitories.

Students in the proprietary sample relied more heavily on grants and loans, and less on scholarships, earnings from employment, parental support, and personal savings than did other college students (table 57). Two of every five proprietary school students received financial support from the BEOG program, compared with only one in four community college freshmen. Supplemental Educational Opportinity Grants (SEOG) provided financial assistance to 11 percent of the proprietary school students but only 6 percent of college freshmen. One in five proprietary school students participated in a work-study program, compared with only 8 percent of community college freshmen. In the community college, almost equal proportions of men and of women received support from three sources, whereas in the proprietary schools, women had a slight edge over men, the distribution being as follows: 36 percent of the men and 41 percent of the women had BEOG support; 8 percent of the men and 12 percent of the women received SEOG support; and 16 percent of the men and 21 percent of the women had work-study grants.

Two in five proprietary school students had GSL loans, in sharp contrast to only 7 percent of the community college freshmen. Similarly, more proprietary school students (12 percent) than community college freshmen (4 percent) had NDSL loans. The same pattern holds for support from "other loans": 14 percent of the prorietary sample and only 5 percent of the community college sample. In community colleges, approximately equal proportions of men and women had loans, whereas in the proprietary schools, more men had GSL loans, and more women had NDSL loans.

Part-time employment was a source of financial support for 55 percent of the proprietary school students and 70 percent of the community college students. Men in the proprietary sample were more likely to be working part-time than women (63 percent and 52 percent, respectively); this same sex difference obtained among community college students, though it was not as pronounced: 73 percent of the men and 68 percent of the women were working part-time.

In addition, 12 percent of the proprietary sample and 16 percent of the community college sample were working full-time. Among community college students, 9 percent more men than women received support full-time employment; the sex difference was more pronounced (12 percent more men than women) in the proprietary schools.

Proprietary students were less likely to depend on personal savings and parental support to meet their educational expenses than were community college freshmen: Only 42 percent (45 percent of the men and 41 percent of the women) reported savings as a source, compared with 54 percent of community college freshmen (55 percent of the men and 53 percent of the women). Parental support was reported slightly less often by proprietary school students (71 percent) than by community college freshmen (73 percent), with women in both sectors being more likely to receive such aid than men: 60 percent of the men and 74 percent of the women entering proprietary schools, compared with 70 percent of the men and 77 percent of the women entering community colleges.

Scholarships were a less common source of support for proprietary school students than for community college freshmen: only 7 percent of the proprietary students received state scholarships, compared with 15 percent of the community college freshmen. Approximately 1 percent more women than men received such scholarships in each cohort. Local or private scholarships were distributed similarly: 12 percent of the proprietary school students and 13 percent of the community college freshmen received such aid, and women in both sectors were more likely to get this form of support.

As one would expect from the larger proportion of married students and veterans in the proprietary sample, respondents were more likely than were community college students to report receiving financial support from a spouse (5 percent and 3 percent, respectively) and from personal GI benefits (24 percent of the men, 1 percent of the women, vs. 6 percent male freshmen at community colleges). In both sectors the women were more likely to receive support from their husbands than vice versa. Low levels of support also came from a parent's GI benefits, where distribution by sex was almost equal: 3 percent of each sex in the proprietary schools, and slightly lower figures in the community colleges. Some additional support was received from social security dependent's benefits by 13 percent of the men and 11 percent of the women in proprietary schools, a much more equal distribution by sex than was evident in the community colleges, where 9 percent of the men but only 2 percent of the women received such support.

The data presented here indicate that financial aid was distributed differently in the proprietary sector than in the collegiate sector. Concern about financing college was somewhat less pronounced among the proprietary school students; nearly a third were financially independent. For financial support they relied more heavily on grants and loans and less on scholarships, employment, and personal savings than did community college freshmen. Larger proportions of married students and veterans among the proprietary students probably accounted for the larger proportion receiving support from spouse and from GI benefits.

FINANCIAL AID AT THE GRADUATE LEVEL

A review of the literature on the financing of graduate education raises the following questions in need of further study: (1) Are there differences in the number of financial aid awards made to men and women, and are these differences significant in terms of the proportion of each sex enrolled in advanced study and the proportion of each applying for aid? (2) Do the amounts of aid per award differ by sex? (3) Does the type of aid differ by sex? (4) Are aggregate differences related to sex or to the amounts of aid funds available in different fields? (5) Does the impact of financial aid on access to and persistence in graduate education differ by sex?

Lack of adequate data hampers research on these question. Although some information is available on the number of male and female graduate students receiving certain kinds of aid, dollar amounts are hard to come by. The situation is rendered more complicated by the varety of programs to be considered. The term advanced study encompasses a wide range of master's, doctoral, and professional programs that take different amounts of time to complete; students may be enrolled either part-time or full-time; and financial aid is usually controlled and administered by the department rather than by a central financial aid office, as is the case with undergraduate financial aid.

Distribution of Financial Aid

Nonetheless, some information is available. For instance, a longitudinal study of 1961 entering freshmen followed up ten years later in 1971 indicated that during the first year of advanced study, men and women had relied on somewhat different sources for major financial support (El-Khawas and Bisconti (1974). As table 58 indicates, personal or family resources supported more women (46 percent) than men (38 percent). A more detailed analysis of this category of support indicates that larger proportions of women depended on their own savings or on their husband's earnings, whereas larger proportions of men relied on support from parents or relatives. More men (22 percent) than women (16 percent) received support from fellowships, scholarships, and traineeships. The sexes relied about equally on employment earnings--26 percent of the men, and 27 percent of the women--but men were more likely (by 3 percentage points) to have teaching or research assistantships. An additional 6 percent of the men and 1 percent of the women reported GI benefits as their major source, and 2 percent of the men and 3 percent of the women reported loans as a major source.

Based on a national survey conducted by the CCHE and the ACE, Creager (1971) reports data on a sample roughly comparable to that in the El-Khawas and Bisconti study: graduate students who had entered college as freshmen between 1961 and 1964. Table 59 presents data on the major sources of income in graduate school for students at all degree levels (first professional, doctoral, etc.), by sex. Men and women drew about equally on fellowships, investments, savings, parental support, loans, and "other" sources. In only two categories of financial support were there sex differences: Twice as many men (24 percent) as women (12 percent) indicated that a nonacademic job was a major source of financing graduate education, whereas over twice as many women (27 percent) as men (12 percent) reported support from spouse as a major source. In addition, slightly more men (23 percent) than women (20 percent) financed their graduate education through assistantships. The findings with respect to support from spouse and from assistantships are consistent with the findings of El-Khawas and Bisconti.

Noting that "although the number of responses is small and perhaps nonrepresentational, these are the only available data on the subject," Solmon reports data from approximately 50 institutions. As table 60 indicates, about equal proportions of men and women received aid from each source, except for GI Bill benefits, which went more frequently to men (19 percent) than to women (3 percent). Nonservice awards (i.e., those that do not require work or services from the recipient) were received by 12 percent of the men and 14 percent of the women. While fellowships and scholarships were evenly distributed between the sexes, traineeships were more often awarded to women (4 percent, versus 3 percent of the men). Service awards were given more often to men (31 percent) than to women (25 percent). This 6 percent difference takes on signifcance when one considers that service awards (research and teaching assistanships) often involve working closely with a faculty member, a relation that facilitates persistence in graduate school and may lead to increased career opportunities. More men than women were awarded research assistantships (where contact with a faculty member is usually chose and frequent), whereas more women received teaching assistantships, other graduate assistantships, and instructorships (where the graduate student's relation with a faculty member is usually more distant). This difference, then, may work against the women graduate student. Overt discrimination is not necessarily involved, however; rather, the difference may be attributable to the concentration of men in the sciences and of women in the humanities and education, fields where research assistantships are rare.

The catch-all category of "other service awards" was reported as a source of aid by 10 percent of the men and only 4 percent of the women. Women were somewhat more likely than men to get institutional loans (14 percent and 12 percent, respectively) and, again, GI benefits went chiefly to men (19 percent, versus 3 percent of the women). This overview suggests that women are at no great disadvantage when it comes to financial support for advanced study, except in the case of research assistantships; as was mentioned above, this difference may be explained by the lack of such awards in the graduate fields where women are concentrated.

Of the average dollar amount received from each of these sources, Solmon comments: "The difference between awards to men and women is surprisingly small. In virtually every case, men received slightly more of a stipend than women, but the difference is rarely more than several hundred dollars" (Solmon, 1975, p.148). The major exception is that, though slightly fewer men had instructorships, their average stipend was close to $2,000.00 more than that of women with intructorships. Data on amounts of awards were reported under two categories: direct stipends, and tuition and fee waivers. In the second category, the dollar amounts received by men and by women were about equal, the only difference being that men received slightly more in tuition and fee waivers for traineeships, and women slightly more for instructorship; in each case, the difference was about $300.00.

Reviewing the data on sources of financial support for advanced study, one can only speculate on the reasons for sex differences. Do women rely more heavily on family and self-support by choice or simply by default? In other words, have they made a deliberate choice to rely on themselves and their families rather than to compete for institutional and governmental support? Or are they forced to fall back on themselves and their families because they have been discriminated against when they seek other forms of support? To some extent, these alternatives beg the whole question of societal attitudes and discriminatory practices.

An examination of data on fellowships is suggestive. Table 61 shows fellowship applications and awards for women and for all applicants.[5] In virtually all except professional fields, women constituted a greater proportion of the recipients than of the applicants; in some cases, fellowships were awarded to women in about the same proportion as they applied for them. At first glance, these data would seem to indicate that no sex discrimination exists in the awarding of fellowships. Before we can infer that no sex discrimination exists, however, we would need to know more about the comparative ability levels of male and female applicants.

Impact on Access and Persistence

A student's access to advanced study should be judged not only by his/her enrolling in a graduate or professional program but, more important, by his/her enrolling in the program of first choice. Graduate programs differ considerably in their quality; in addition, other aspects of the institution--such as its location and distance from the student's home--may affect a student's chances of entering graduate study.

The ten-year follow-up survey of 1961 college freshmen (El-Khawas and Bisconti, 1974) asked respondents who had gone to graduate school to indicate the reason why they did not enroll in the graduate or professional school of their first choice (if indeed that had been the case). As table 62 indicates, of those who did not enroll in their first-choice institution about three in five men, but only three in ten women, said they had not been accepted at their first-choice institution. One in four women, but only 11 percent of the men, said they did not enroll in their first-choice program because the received no offers of financial assistance. This finding throws some light on the data in the previous section that suggest women are disadvantaged with respect to financial aid in graduate school: It may be that they are forced to attend lower-quality institution because the elite institutions are simply too costly.

The data shown in table 62 support this hypothesis: Institutions other than the first-choice institution usually offered aid to women on better terms. As further evidence of the view that women aim lower than men in selecting graduate schools, 21 percent of the men did not enroll in their first-choice institution, as compared with only 15 percent of the women; the supposition here is that men were more likely to apply to high-quality schools (and perhaps to be rejected by them), whereas women were more likely to apply to lower-quality institutions and thus to be accepted by them. Though much of this is speculative, it seems clear enough that availability of financial aid has a differential impact on men and women with respect to their access to graduate school.

Once enrolled in a graduate or professional program, are men and women affected differently by the burden of financing their education? Table 63, based on data from the El-Khawas and Bisconti study, indicates responses to various questions related to financial aid in graduate school. Asked about their financial situation, 31 percent of the men and 25 percent of the women reported that they felt major concern over their ability to meet expenses. Similarly, 12 percent of the men and 9 percent of the women said they had received much less financial assistance than they needed in graudate school. The proportions who said that a fellowship was not renewed when they had expected to be was about the same (2 percent of the men, 1 percent of the women), as was the proportion who had worked or who expected to work on their thesis off-campus while employed full-time (16 percent of the men, 17 percent of the women. But 9 percent of the men, compared with only 5 percent of the women, worked or expected to work on the thesis as part of their employment on a research project.

Thus, the sexes differed little in their overall concern over financial aid in graduate school, except that such aid came to men somewhat more often through work in research, and (as was pointed out previously) such work often entails greater involvement in the graduate study program, closer contract with faculty, and improved career opportunities.

Men and women did not differ significantly in experiencing the following obstacles to completion of the graduate degree: loss of fellowship, scholarship, or traineeship; other financial problems; duties involved in a teaching or research assistantship; administration of stipend. But about one in four women, compared with 15 percent of the men, said that family obligations constituted a serious obstacle to graduate school completion, a finding that supports the observation that, in our society, men are more concerned ~~conerned~~ with making money to maintain a family, whereas women are more concerned with running the family itself. To men, family obligations and financial problems loomed equally large as obstacles, whereas women were more likely to be hampered by family obligations than by financial problems (see table 63).

Asked to report their reasons for any interruption of advanced study, 44 percent of the men, but only 38 percent of the women, said they had interrupted their studies to take a job; 44 percent of the women, but only 17 percent of the men, had left school because of home and child care responsibilities. Slightly more women than men said they had interrupted their study because they were not offered a fellowship, but the proportions here were very small. Even fewer graduate students had left school because their fellowships were terminated. "Other financial problems" were cited as a reason by equal proportions of men and women. Financial reasons per se were rarely crucial in the decision to interrupt advanced study; rather, the broader areas of employment and home responsibilities had substantial negative effects on persistence in graduate school. Men were more likely than women to say that they had discontinued advanced study because of reasons associated with loss of interest: 39 percent and 31 percent, respectively, said they were tired of being a student; 24 percent and 15 percent, respectively, said they had changed their career plans; and 29 percent and 23 percent, respectively, said they wanted to reconsider their goals and interests. One in ten men dropped out because of academic difficulties, compared with only 4 percent of the women. To summarize: women are more likely to interrupt their graduate studies because of family responsibilities and financial hardship, men because of loss of interest or academic problems.

A final note with respect to the comparative persistence of men and of women in graduate school. It is often charged that women make poor risks in graduate school because family responsibilities force them to enroll on only a part-time basis or because they must interrupt their advanced training to follow their husbands if they change jobs and relocate in another city. Reporting of information obtained from graduate deans, Solmon notes:

> Apparently, women do not move from institution to institution for their graduate study any more frequently than men. Some argue that women must follow their husbands around the country so they will attend more graduate schools before receiving their Ph.D.'s. It does appear, however, that in selecting institutions, women are not as

> mobile, do not move out of their home state, and concentrate in urban areas more often than men. Marriage appears to stabilize women rather than cause them to move excessively. [Solmon, 1975, p.162]

(As table 63 indicates, however, more women than men cited moving to a new location as their reason for interrupting their studies).

Solmon also notes that the data do not support the contention that women take longer to complete graduate school than men and thus waste the resources of graduate schools. Rather, women are older when they receive the doctorate because they often delay entering graduate school, perhaps taking time out to start families. In terms of years of study for the doctorate, they take no longer than men. What may at first look like sex differences are more likely to be field differences in that, whatever their sex, students tend to complete the doctorate faster in the hard sciences; but since smaller proportions of women are enrolled in these fields, and larger proportions in fields where graduate study is often prolonged, the figures seem to suggest that women take longer time.

This discussion must be qualified by the caveat of limited data. In all cases, we have good statistical data only on students who completed the doctoral program. We know relatively little about those students, male or female, who dropped out before completing their graduate degree and thus can say little about the personal problems or institutional barriers that contributed to their failure ot obtain the degree.

SUMMARY

The sources of support which a high school graduate has to draw on affects his/her decision to continue education, choice of a particular institution, and persistence once enrolled. Our society generally gives higher priority to educating men than to educating women--partly because of the outmoded belief that men are the sole breadwinners and therefore college education for women is frivolous; they will not "use" it. The damage that this belief does is compounded by the heavy reliance that women have on their parents' support to cover college expenses. Women are less successful than men at getting jobs to help pay for their education; and even when they do find jobs, they are underpaid in relation to men; evidence exists that they may be discriminated against in college work-study programs by being given lower-paying, lower-status jobs than men. They receive less support from scholarships and other grants. They may not be able to get loans as easily as men, or they may be reluctant to borrow because their different work and income patterns will make it more difficult for them to pay off the debt. They are less likely than men to receive military-related benefits. In short, women are ultimately forced to depend on their parents for support, and this financial dependence may make them more emotionally dependent on their parents as well. Women from low socioeconomic backgrounds are at a particular disadvantage, first because their parents may simply not have the money to spare to send them to college, and second because low-income families are more likely to give precedence to educating sons than daughters.

Though college financial aid officers usually report that the student's sex is not considered in awarding financial aid, their off-the-cuff comments often reveal an insensitivity to the special needs of women. One common institutional practice that is particularly detrimental is the restriction of financial aid to full-time students. This restriction penalizes both men and women but is especially damaging to those women who, because of family responsibilities, cannot enroll full-time, and by the same token, cannot take jobs to help pay their way through college.

At the undergraduate level, women are somewhat more likely than men to express concern over being able to finance their education; they are less likely to declare themselves financially independent. Throughout their college years, they rely more on parental support, whereas men are more likely to rely on earnings from employment to support themselves. Moreover, though a larger proportion of women than men are awarded scholarships and loans, the average amount of the award is higher for men.

Undergraduate men receive more total financial support than women, though it is not clear whether this is because they are judged to be more needy or because they are more assertive in applying for aid and seeking employment.

Students attending proprietary schools are less likely than students in the collegiate sector to express concern over their ability to finance their education and more likely to be financially independent, particularly the men (who also tend to be older than the average male college freshman). Proprietary school students rely more heavily on grants and loans and less heavily on scholarships, earnings from employment, and savings than do community college freshmen. The larger proportion of married students and veterans in the proprietary sample probably accounts for the larger proportion who report receiving support from their spouse or from GI benefits.

With respect to the financing of advanced study, some information is available on the proportion of men and women who receive certain kinds of financial aid, but useful data on the dollar amounts awarded to men and to women are lacking. It appears, however, that during the first year of graduate study, women rely more on their own savings or on their husband's earnings, whereas men rely more on support from parents or relatives; more men also receive support from fellowships, scholarships, traineeships, and assistantships. This last source of support is important in that having an assistantship--and particularly a research assistantship--increased a student's chances of completing graduate study in that such an award usually involves working closely with a faculty member, which in turn encourages persistence and may pave the way to better career opportunities later on. Having a teaching assistantship does not have the same positive effects. That more men have research assistantships, and more women teaching assistantships, then, becomes significant; this difference may work against women graduate students in the long run. It is not, however, necessarily attributable to sex bias; rather, it may be explained by women's concentration in fields where research assistantships are simply not available on any larger scale.

Access to graduate school involves not just enrolling in any graduate program but enrolling in the graduate program of one's first choice. When asked why they had not enrolled in their first-choice program, men were more likely to say that they had not been accepted, and women to say that they had not received any offers of financial aid.

Perceived obstacles to completing graduate study, differ somewhat for men and women. Men are more apt to cite financial problems and women to cite family obligations. Reasons for interrupting advanced study as well differ by sex: Women are more apt to mention family responsibilities and financial problems whereas men more often discontinue their studies because the experience academic difficulties or simply lose interest.

FOOTNOTES - CHAPTER 5

1. The emphasis in this examination of types of financial aid is more on Federal than on institutional programs because of the greater size and scope of Federal programs and because one major function of institutions is the distribtuion of Federal monies.

2. These 20 institutions represent a sample of private liberal arts colleges that received funding from the Exxon Foundation to improve their management procedures. The Higher Education Research Institute also has a grant from the Exxon Foundation to study these institutions indepth before and after management changes have been implemented.

3. This would seem to contradict the finding reported earlier in this chapter (p.187) that men were more likely than women to borrow to finance their undergraduate and graduate education and to borrow larger amounts. Two alternative explanations may be offered for this apparent discrepancy. First, we are here talking about high school seniors; it may be that, once enrolled in postsecondary institution, men lose their reluctance to borrow and women become more wary of going into debt. Second, it may be that a cohort difference is operating here: that is, the El-Khawas and Bisconti study involved a sample that had entered college in 1961, whereas the high school seniors referred to here would have entered college in 1973. In the intervening time, women may have become less reluctant to borrow.

4. These data are from the 1974 CIRP survey, which included students at 15 proprietary schools. See Chapter 2, p. 42 , for a fuller description of the sample.

5. These data summarize the report by Attwood (1972) on all fellowship programs from the academic year 1968-69 through 1972-73 on which statistics were available.

Table 50--Planned sources of funds for further study beyond high school of 1972 high school seniors, by sex: United States, 1972 (in percentages)

Source	Men	Women
College or University Scholarship or Loan (athletic or academic)	23	19
State or Local Scholarship or Loan	19	21
Scholarship from a Private Organization or Company	10	11
Veterans Administration Survivor's Benefits or Direct Benefits	8	3
ROTC Scholarship Programs	4	1
College Work-Study Program	16	17
Social Security Benefits for Students Age 18-22	8	9
National Defense Student Loan Program	8	7
Federal Guaranteed Student Loan Program	7	7
Educational Opportunity Grant Program	6	6
Health Professions Student Loan Program	2	2
Health Professions Scholarship Program	2	2
Nursing Student Loan Program	1	4
Nursing Scholarship Program	1	3
General Scholarship Program	7	7
Law Enforcement Education Program	4	1
Veterans Administration War Orphans Educational Assistance Program	2	1
Regular Bank Loan	23	20

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W. B. Fetters (1975).

TABLE 51--Reasons given for not planning to get financial aid for study from sources outside the family by 1972 high school seniors, by sex: United States, 1972
(in percentages)

Reason	Men	Women
Do not want to go into debt	48	41
Parents or I will be able to pay for more education without outside aid	43	39
Don't expect to qualify for scholarship or loan I'm interested in due to family income	29	27
Don't expect to qualify for scholarship or loan I'm interested in due to high school grades	32	22
Don't expect to qualify for scholarship or loan I'm interested in due to test scores	26	22
Don't plan to get more schooling	22	24
Race or ethnic group makes it too difficult to get aid	12	9

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W. B. Fetters (1975).

TABLE 52--Sources from which 1972 high school seniors planning to attend a 2- or 4-year college or university or to take correspondence courses expect to pay for their education, by sex: United States, 1972

(in percentages)

Source	Men	Women
Savings or summer earnings	85	83
Parents	76	80
Earnings while taking the course	57	53
Other loan	26	28
College work-study program	24	27
Private Scholarship or Grant	22	23
Federal Guaranteed Student Loan Program	12	12
National Defense Student Loan Program	11	13
Educational Opportunity Grant Program	10	12
Social Security Benefits for Students Age 18-22	8	9
Other relatives (not parents)	8	8
Veterans Administration Survivor's Benefits or Direct Benefits	4	3
Husband or Wife	2	4

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W. B. Fetters (1975).

TABLE 53--Work plans of 1972 high school seniors who plan to attend a 2- or 4-year college or university or to take correspondence courses, by sex: United States, 1972
(in percentages)

Hours of Work	Men	Women
Total	100	100
None	21	24
1-5 hours week	4	6
6-10 hours week	7	6
11-15 hours week	7	6
16-20 hours week	8	6
More than 20 hours week	9	4
Uncertain about number of hours	29	29
Uncertain about working	16	19

NOTE--Columns may not total 100 due to rounding.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Educational Statistics, National Longitudinal Study of the High School Class of 1972, prepared by W. B. Fetters (1975).

TABLE 54--Sources of financial support for entering college freshmen, by sex: United States, 1974
(in percentages)

Source of Support	Men	Women
Grants		
Basic Educational Opportunity Grant	26	24
Supplemental Educational Opportunity Grant	7	6
Work Study	12	14
Loans		
Federally Guaranteed Student Loan	10	10
National Direct Student Loan	9	10
Other	7	7
Employment		
Part-time	72	68
Full-time	14	8
Personal Savings	57	56
Parents or Family	77	84
Scholarships		
State Scholarship	18	20
Local or Private	17	23
Spouse	2	2
G.I. Benefits		
Personal G.I. Benefits	3	1
Parent's G.I. Benefits	2	2
Social Security Dependent's Benefits	8	10
Other	7	5

NOTE--Percentages are based on weighted Ns representing the universe.

SOURCE: American Council on Education and the University of California at Los Angeles, The American Freshman: National Norms for Fall 1974, prepared by A.W. Astin, et al., (1974) TABLE 55--Percent and median dollar amount of undergraduate financial support, by source and sex: United States, 1972

Source of support	Men		Women	
	Percent receiving support	Median dollar amount[1]	Percent receiving support	Median dollar amount[1]
Family	82	3,392	90	4,184
Scholarship	42	1,632	46	970
Loan	39	2,038	41	1,884
Employment	85	2,648	73	1,618
All sources[2]		9,592		8,968

1. Among those receiving aid from that source.

2. Individual sources do not total "all sources" because they are reported in median dollar amounts.

NOTE--Data are abstracted from a longitudinal survey in 1972 which followed up freshmen who entered college in 1968. Only students who had completed 4 years of school in 1972 were studied.

SOURCE: Higher Education Research Institute, Los Angeles, unpublished manuscript The Allocation of Financial Aid by Sex, Race, and Parental Income, prepared by A.W. Astin and C.E. Christian (1975).

TABLE 56--Distribution of undergraduates, by annual tuition, source of support, sex, and residence: United States, 1972

(in percentages)

	Men				Women			
	Living with parents		Other living arrangements		Living with parents		Other living arrangements	
Tuition (in dollars) and source of support	Percent receiving support	Median dollar amount[1]	Percent receiving support	Median dollar amount[1]	Percent receiving support	Median dollar amount[1]	Percent receiving support	Median dollar amount[1]
Low ($499 and below)								
Family	75	2,600	72	2,430	82	2,108	91	3,728
Scholarship	35	1,506	38	1,534	35	730	42	820
Loan	29	1,870	40	1,828	30	1,282	46	1,660
Employment	88	2,010	82	2,332	76	1,590	70	1,436
All Sources		6,756		9,304		5,268		7,476
Medium ($500-1,499)								
Family	78	2,094	85	3,464	86	2,374	92	4,232
Scholarship	41	1,366	42	1,240	43	760	53	920
Loan	33	1,114	42	2,136	42	1,688	46	2,038
Employment	86	2,816	87	2,960	74	1,828	76	1,618
All Sources		7,912		9,424		6,540		8,848
High ($1,500 and above)								
Family	82	3,344	92	6,756	87	3,968	95	8,728
Scholarship	54	2,192	48	2,720	54	1,814	43	2,136
Loan	45	2,108	46	2,388	47	1,968	38	2,234
Employment	84	3,248	82	2,840	76	1,884	69	1,618
All Sources		9,904		14,592		9,376		13,824

1. Among those receiving aid from that source.

NOTE--Data are abstracted from a longitudinal survey in 1972 which followed up freshmen who entered college in 1968. Only students who had completed 4 years of school in 1972 were studied.

SOURCE: High Education Research Institute, Los Angeles, unpublished manuscript The Allocation of Financial Aid by Sex, Race, and Parental Income, prepared by A. W. Astin and C. E. Christian (1975).

TABLE 57--Sources of financial support for proprietary and other postsecondary freshmen: United States, 1974
(in percentages)

Source of support	Proprietary freshmen	Community college freshmen	All college and university freshmen
Grants			
Basic Educational Opportunity Grant	40	24	25
Supplemental Educational Opportunity Grant	11	6	6
Work Study	20	8	13
Loan			
Federally Guaranteed Student Loan	40	7	10
National Direct Student Loan	12	4	9
Other	14	5	7
Employment			
Part-time	55	70	70
Full-time	12	16	11
Personal Savings	42	54	57
Parents or Family	71	73	80
Scholarships			
State Scholarships	7	15	19
Local or Private	12	13	20
Spouse	5	3	2
G. I. Benefits			
Personal G.I. Benefits	24 (of men)	6 (of men)	3 (of men)
Parent's G.I. Benefits	3 (of men)	3 (of men)	2 (of men)
Social Security Dependent's Benefits	11	10	9

NOTE--The percentages for proprietary students are based on a sample of 1,446; percentages for the two other categories are based on weighted Ns to represent the universe.

SOURCE: Higher Education Research Institute, The Proprietary Student, prepared by C. E. Christian (1975).

TABLE 58--Sources of financial support for first year of postbaccalaureate study, by sex: United States, 1971

Sources	Total		Men		Women	
	Number	Percentage	Number	Percentage	Number	Percentage
Total	219,476	100	137,542	100	81,934	100
Fellowships, scholarships, traineeships, etc.						
NSF	5,367	2	4,231	3	1,137	1
NIH, NIMH, PHS	3,777	2	2,187	2	1,590	2
NDEA	6,253	3	4,752	4	1,501	2
Other HEW	2,162	1	862	1	1,300	2
Other U.S. government	5,781	3	4,324	3	1,457	2
State or local government	2,480	1	1,578	1	902	1
School or university	5,935	3	3,630	3	2,305	3
Private foundations, organizations	3,315	2	2,333	2	982	1
Industry or business	2,991	1	2,356	2	635	1
Other fellowships, scholarships	1,651	1	943	1	708	1
Employment						
Faculty appointment	1,325	1	435	**	890	1
Teaching assistantship	11,362	5	8,023	6	3,339	4
Research assistantship	6,136	3	4,592	3	1,543	2
Other part-time during academic year	8,566	4	6,599	5	1,967	2
Other	31,524	14	16,576	12	14,948	18
Other						
Withdrawals from savings, assets	34,775	16	19,326	14	15,449	19
Spouse's earnings or funds	25,829	12	12,942	9	12,887	16
Support from parents or relatives	29,745	14	21,014	15	8,731	11
GI benefits	8,820	4	7,811	6	1,009	1
U.S. government loans	1,640	1	1,311	1	329	**
State and local government loans	774	**	514	**	261	**
Commercial loans (banks, etc.)	2,698	1	1,315	1	1,384	2
Other loans	1,293	1	587	**	707	1
Partial aid from employer (tutition reimbursement or waiver, grants, etc.)	8,932	4	6,134	5	2,798	3
Other	6,343	3	3,167	2	3,175	4

NOTE--All columns may not total 100% due to rounding. Double asterix indicates less than .5.

SOURCE: American Council on Education, Five and Ten Years After College Entry, E. H. El-Khawas and A.S. Bisconti (1974).

TABLE 59--Primary source of income since entering graduate school, by sex: United States, 1969
(in percentages)

Source	Graduate students at all degree levels		
	Total	Men	Women
Fellowship	14	14	14
Teaching/Research Assistantship	22	23	20
Nonacademic job	20	24	12
Spouse's job	17	12	27
Savings	4	4	5
Investments	1	1	1
Aid from family	8	8	8
Personal loan	1	1	1
Government or Institutional loan	4	5	4
Other	9	9	10

NOTE--All columns may not total 100% due to rounding.

SOURCE: American Council on Education, The American Graduate Student: A Normative Description, prepared by J.A. Creager (1971).

TABLE 60--Distribution of financial aid to graduate students, by type and amount of aid and sex of students; United States, 1973

Type of financial aid	Percent of those enrolled receiving awards		Average dollar value of award			
			Direct Stipend		Tuition and Fee Waiver	
	Men	Women	Men	Women	Men	Women
Total nonservice awards	12	14	2389	2270	1579	1446
Awarded by Institution						
Fellowships or scholarships	8	9	2309	2280	1353	1392
Traineeships	3	4	2608	2472	2114	1761
Other	5	4	2955	2799	1244	1179
Awarded by external (other) sources	4	4	2587	2442	1545	1519
Total service awards	31	25	2648	2536	1311	1302
(Other nonrepayable aid)						
Research assistantships	12	8	2647	2638	1274	1337
Teaching assistantships	22	22	2501	2476	1260	1255
Other graduate assistantships	7	8	2561	2472	1128	1132
Instructorships	7	9	5037	3388	705	1000
Other	10	4	2362	2276	1206	1214
Institutional loans	12	14				
GI bill	19	3				

NOTE--Data are from a survey of graduate deans in which 50 schools provided useable statistics.

SOURCE: Higher Education Research Institute, Los Angeles, Men and Women Graduate Students: The Question of Equal Opportunity, by L.C. Solmon (1975).

TABLE 61--Number of women fellowship applicants and recipients, by ~~[illegible]~~ field: United States, 1963-68

Field	Applicants			Recipients		
	Total	Number of women	Percentage of women	Total	Number of women	Percentage of women
Physical Sciences	7,717	359	5	2,140	163	8
Social Sciences[1]	9,801	955	10	2,187	388	18
Arts and Humanities	8,403	1,180	14	1,927	294	15
Professional[2]	548	49	9	4,618	337	7
Education[3]	23,659	8,160	34	6,299	2,637	42
Unclassified[4]	66,778	12,722	19	105,356	22,857	22

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1. 3,835 applications/485 recipients not categorized by sex.

2. 2,854 applications not categorized by sex.

3. 950 applicants not categorized by sex.

4. 49,542 applicants not categorized by sex.

SOURCE: Association of American Colleges, Washington, Women in Fellowship and Training Programs, by C.L. Attwood (1972).

TABLE 62--Reasons of 1966 freshmen for not enrolling at first-choice graduate or professional school, by sex and field: United States, 1971
(in percentages)

				Graduate Field				
Reasons	Total (N=53,337)	Men (N=35,320))	Women (N=18,017)	Biological Sciences (N=2,243)	Physical Sciences & Mathematics (N=3,590)	Health Fields (N=5,324)	Social Sciences (N=6,873)	Other Fields (N=31,126)
Was not accepted	50	61	30	55	43	74	57	51
No financial assistance offered	16	11	25	23	30	4	18	17
Unacceptable amount of financial assistance offered	5	4	5	4	13	4	1	4
Better terms of financial assistance at second-choice school	9	7	12	1	17	2	12	10
Other reasons (not financial)	31	24	44	25	23	23	26	34

SOURCE: American Council on Education, Washington, Five and Ten Years after College Entry, by E. H. El-Khawas and A.S. Bisconti (1974).

TABLE 63--Financial experiences of 1961 freshmen who were 1971 graduate students, by sex: United States, 1971
(in percentages)

Experiences	Total	Men	Women
Financial Situation			
Had a major concern for meeting expenses	29	31	25
Received much less financial assistance than I needed	11	12	9
A fellowship was not renewed when expected	1	2	1
Worked (or expect to work) on thesis off campus while employed full-time	16	16	17
Worked (or expect to work) on thesis as part of my exmployment on a research project	8	9	5
Obstacles to Completing Study			
Loss of fellowship, scholarship, traineeship	1	1	1
Other financial problems	15	15	14
Family obligations	18	15	24
Duties involved in a teaching assistantship	3	3	2
Duties involved in a research assistantship	1	1	1
Administration of stipend	1	**	1
Reasons for Interrupting Study			
Took a job	42	44	38
Home/child care responsibilities	28	17	44
No fellowship (scholarship, grant) offered	5	4	6
Fellowship, etc., terminated	2	2	1
Other financial problems	16	16	17
Tired of being a student	35	39	31
Academic difficulties	8	10	4
Changed career plans	20	24	15
Wanted to reconsider goals and interests	26	29	23
Moved to different location	21	17	26

NOTE--The double asterix indicates less than .5. The Ns for the financial situation and obstacles section of the table are: total=354,796; men =226,887; and women= 127,910. The Ns for the interrupting study portion are: total =166,020; men= 96,671; and women=69,350.

SOURCE: American Council on Education, Washington, Five and Ten Years after College Entry, by E. H. El-Khawas and A.S. Bisconti (1974).

CHAPTER 6

ADULT WOMEN AND ACCESS TO POSTSECONDARY EDUCATION

Adult women represent a population that often wants and needs to return to school for further training or education at the postsecondary level. But because most postsecondary institutions are structured to accommodate the typical 18-year-old, especially the male, who enters directly after high school graduation for continuous, full-time study, adult women may have difficulty accomplishing the return to education. This chapter looks first at some of the personal problems and institutional barriers that adult women encounter as they seek access to postsecondary education and then describes the continuing education programs for women developed during the 1960s and designed to facilitate access for this population.

PERSONAL PROBLEMS

Basing their discussions on direct observations or on data gathered informally from women in a single program or at one institution, a number of writers (Hunter, 1965; Brandenberg, 1974; Durchholz and O'Connor, 1973) have enumerated some of the problems that adult women face as they enter - or consider a return to education. These problems include lack of information, difficulties in resuming education and preparing for a career, lack of self-confidence, financial stringencies, and time constraints. Hunter comments: "As women become increasingly aware of the fact that it is possible to resume or begin a career, as maternal duties diminish, there is a confusion and a hesitancy about just how they may pick up the reins" (Hunter, 1965, p.311). Other writers have indicated that, though women may want to work, they are often uncertain about what occupation would best suit their interests and abilities.

In addition to uncertainty over goals or over the best way of implementing them, other debilitating feelings may hamper the adult woman who contemplates a return to education. She may, for example, lack self-confidence; having been away from school for a period, she may doubt her own ability to succeed as a student and may fear competition with younger women as well as with men. Or, if she is married and has children, she may feel guilty about leaving her home and family--or, as she sees it, "abandoning" them--to undertake a time-consuming venture that she finds so personally fulfilling. Spending money on her own education--money that might have gone toward the children's college education or a family trip--may trigger guilt feelings. Or, if she has been socialized to believe that women should be nonassertive, she may experience guilt over her aggressiveness in pursuing an education.

This third type of guilt is often reinforced by societal attitudes which decree that a woman's place is in the home and that the woman's proper role is to be a supportive and compliant wife and a nurturant mother. These attitudes may be expressed by her husband and children, by other relatives, by friends. It is difficult for the woman, faced with criticism, skepticism, and disapproval from the people she respects and loves, to find the courage to go ahead with her plans to return to education.

On a more practical level, many women have difficulties arranging their schedules so that they can carry out their responsibilities. Academic work represents a major investment of time--not only attending classes but doing library work and studying--and most adult women have other demands to meet. If married, they usually have homemaking and child care responsibilities; if not married, they often have job responsibilities.

A recent study of continuing education programs for women (CEW) and their clients (Astin, in press; this study is described in greater detail later in the chapter) revealed a little more about the nature and extent of the problems experienced by adult women who return to education (table 64). One in five of the women participating in a CEW program at the time of the study reported that lack of time was a major problem for them, and the same fraction said that job responsibilities or family obligations constituted significant obstacles to their participation. Other personal problems were (in descending order) lack of specific skills and abilities, lack of direction or purpose, lack of self-confidence, lack of energy, guilt about money, and guilt about neglecting the children. Only 5 percent said that nonsupportive family attitudes constituted a problem for them, and the same proportion cited medical reasons.

By far the most frequently mentioned problems, however, were program-related. The times at which classes were offered posed problems to 46 percent; the location of classes (or the distances involved, or transportation difficulties) was cited by one in four participants; another one in four mentioned costs.

The problems encountered by adult women in returning to school varied somewhat according to their marital status (table 65), age (table 66), and racial/ethnic background (table 67). Costs were a major problem for 30 percent of the single (never married) women, 39 percent of the previously married (separated/divorced/widowed) women, but only 17 percent of the married women. Costs were a major problem for 31 percent of the younger women (age 30 and under), compared with 15 percent of the women between age 41 and 50. Nonwhite women (39 percent) were more likely to have difficulty with costs than white women (25 percent).

Married women and women age 31-40 were the most likely to experience conflicts because of family obligations, whereas single women and those age 41-50 felt pressure from job responsibilities. Participants under age 51 more frequently reported problems due to lack of time that did older women, and women under 40 were more likely to feel quilty about money or about neglecting children. Minority women were twice as likely as white women to say that a lack of specific skills constituted a problem.

Many of the participants in CEW were working toward a degree or certificate; of those enrolled in such program, one in five expressed major concern about their ability to finance their education or training, and another 44 percent indicated some concern.

Thus, the problems that the adult woman encounters when she returns to education may vary, depending on her age, her racial/ethnic background, her marital status, and the kind of program she is enrolled in. An understanding of these difficulties will help postsecondary institutions to gear their services to the needs of various subgroups within the population of adult women.

INSTITUTIONAL BARRIERS

Once a woman has managed to overcome her personal problems to the point of enrolling in a postsecondary institution, she encounters institutional barriers, and this is especially so if she enrolls in a traditional collegiate program. Although there is ample evidence that older men and women are serious, highly motivated, and generally competent students (e.g., Crosman and Gustav, 1966), colleges and universities are often reluctant to admit them, especially if they are women.

Admissions procedures are the first obstacle. Brandenberg states the problem concisely: "The predictive validity of outdated transcripts and letters of recommendation, and even of results of recently taken entrance examinations stressing skills that may be rusty after a long interruption of formal education, is questionable at best" (Brandenberg, 1974, p.15). (Men returning to education encounter the same problem, of course. The focus here is on women, however, who are more likely to drop out of college because of marital and family duties, such as childrearing).

Having been away from formal education for a long period gives rise to other problems for the adult woman returning to education. To whom can she turn for letters of recommendation? It is unlikely that any teacher will remember her well enough to be able to give an accurate evaluation of her aptitudes and academic promise, both of which may have changed in the interim. How can she expect to do as well on college entrance tests as the recent high school graduate who has just completed the subject areas covered by such tests? The woman who has been out of school for five or six years (37 percent of the women in Astin's sample had been away for at least six years), may find her memory of algebra and American history inadequate to answer the questions on achievement tests in those fields.

Finally, the women returning to education after a long interruption may find that the institution will not accept her previous college credits. Many colleges and universities have such time limits. The UCLA Graduate School of Education for example, does not transfer credit if it is seven years or older. Thus, the woman who completed her sophomore year ten years earlier finds that she must begin all over again. Moreover, many institutions have rules about which credits are transferable from institution to institution; it is important to ascertain just what the picture is nationwide.[1]

The cost of going to college is a second major obstacle, and adult women are particularly vulnerable to financial problems (table 68). Student aid programs are simply not designed for the 35-year-old freshman, though her need may be as great or greater than that of the younger freshman. The married woman who enrolls as a student frequently has family obligations that preclude her working to pay her own way and thus force her to depend upon her husband. As had been pointed out, in most states if the husband "does not consent to share his income for her tuition or will not sign a student loan application, she will not be able to go to college. She will be ineligible for financial aid because of her husband's earnings" (Durchholz and O'Connor, 1973, p.62).

Many women who return to school can enroll only part-time because of family or job demands. Yet financial aid is usually available only to full-time students. Mulligan writes: "Students who attend school part time generally do so because they have responsibilities and commitments which preclude full-time attendance. Rather than exhibiting a responsiveness, however, to the high degree of motivation and great need associated with such attendance, the Federal Government has concentrated its programs of financial assistance on full-time students" (Mulligan, 1973, p.14).

The costs of postsecondary education create particular problems for lower-income women and for women who are heads of households. Cross, in a study of adult women in two-year institutions, reports that "financial pressure is the greatest concern for [returning adult] women students as many are self-supporting or are heads of households" (Cross, 1975, p. x). Project Second Start (Robinson, Paul, and Smith, 1973) was based on 46 women in Special Adult Programs at Brooklyn College: 38 had incomes of $9,000 or less; 27 were single heads of households. These women (the group was about equally divided between white and nonwhite) had to pay not only for their education but also for child care. Most of them financed their education through earnings from employment savings, financial aid, and commercial loans. Because being able to work was critical, the program had to be arranged to accommodate these women.

Though adult women must often enroll as part-time students, and while almost half prefer part-time study (Astin, in press), collegiate institutions favor full-time students; part-time students are expected to enroll for evening classes. But adult women vary in their needs and require a wide choice of class times. Those who have preschoolers may prefer classes in the evening or on weekends when another adult is available to babysit. Those with older children want classes scheduled during the day, when their children are in school. Not only the time but also the place that courses are offered is important, since the returning student does not live on campus and frequently must commute some distance to attend a class. Thus, classes that meet four or five days a week for one hour are generally less convenient than are longer sessions once or twice weekly, or independent study.

Certain institutional policies and regulations may complicate the lives of adult women returning to education. For instance, in our highly mobile society, where people frequently make job changes that require them to move considerable distances and where the wife is expected to follow the husband, a married women working toward a college degree may suddenly find herself, in her final year, forced to enter a new institution with a residency requirement of two years. Rigid course requirements and class prerequisites are onerous to the adult woman, physical education requirements being a prime example. Adult women with other responsibilities have a difficult enough time coordinating academic classes with their other activities without the additional burden of having to take gym classes.

An article on older women students sums up the situation: "The uncertainty and insecurity of the women may be exacerbated by college services that are geared for younger students in a different life situation" (Brandenberg, 1974, p.15).

CONTINUING EDUCATION FOR WOMEN

Continuing education programs for women (CEW) were established by dedicated leaders, usually academic women, who recognized that adult women considering a return to education faced special problems and required programs that would assist them in making the transition back to school with a few extraneous complications as possible. From modest beginnings in the early 1960's, CEW programs have proliferated under the auspices of many postsecondary institutions. Their exact number today is difficult to determine because of wide variations in functions and quality of programs. A recent study sponsored by the National Coalition for Women's Education and Development, examined 15 CEW programs housed in postsecondary institutions; in-depth interviews were conducted with program staff (directors, faculty, counselors), administrators in the parent institutions, and the women participating in the programs (Astin, in press). The following description is based on the 15 programs in that study.

The programs are designed to serve a varied clientele: women who have never attended college, women with some college experience who dropped out before getting the bachelor's degree and who now want to complete their college work, women with advanced degrees who want to engage in independent study or to update their knowledge, women who want vocational training so that they can enter the job market or get better jobs, women who want to follow avocational interests. Depending on its size, funding, and focus, a CEW program may seek to serve any or all of these subgroups of adult women, by offering seminars, conferences, workshops, credit and noncredit courses, degree programs, paraprofessional training and retraining programs.

Counseling and information or referral services are common to virtually all CEW programs. Through individual or group counseling sessions, women learn to assess themselves more realisitically in an atmosphere supportive of self-exploration; testing is often a part of this self-evaluation process. Information and guidance about appropriate existing programs in the parent institution or at other institutions are available, as is occupational information; few CEW programs have adequate job placement services, however.

Many of the programs offer credit or noncredit classes tailored to the various needs and interests of the returning student. Curricula range all the way from skills-oriented training to the traditional liberal arts. An effort is made to schedule classes at times and locations (for instance, in churches and community buildings throughout the city and its suburbs) convenient for adult women with other responsibilities. (That these efforts may not always be sufficient is evidenced by the large proportion of CEW participants who cited time and location of classes as major problems encountered during their participation in CEW, as was reported earlier in this chapter).

In some cases, regular college degrees are offered through the continuing education program; in others, the program acts as an intermediary to enroll degree applicants at the parent institutions; in still other cases, the program serves more as a clearinghouse to inform women of existing degree programs that may suit their needs.

Some continuing education programs offer certificate programs, a unique feature of CEW, whereby women are prepared, in a year or less of classwork, for jobs requiring specialized skills: e.g., legal assistant, counseling assistant, landscape architect assistant. Women who want to test out their interest in a field or who are not prepared to undertake years of academic work to prepare for a career can in a relatively short period acquire the skills necessary for them to work in their chosen area. Certificate programs are especially valuable to those women without job skills or experience who --because of divorce or bereavement-- are suddenly faced with the necessity of supporting themselves and their families for the first time.

To summarize: Though there are wide variations in continuing education programs for women, the goal of helping the adult woman to make the back-to-school transition is common to all. Through counseling services, they aid her in defining her goals and assessing herself; in addition, they supply her with information about available educational and vocational options. They serve as an intermediary with the parent institution, assisting her to bypass rigid requirements. Conditional admission; credit for life experience; part-time study; flexible and convenient class scheduling in terms of location, time, and frequency of meetings; relaxation of course preprequisites--all these are essential elements of CEW.

Though many colleges and universities have recognized the demand for CEW and have developed programs to meet this demand, their support is often qualified. Some programs must pay their own way through tuition and fees; others are funded out of institutional budgets but in times of financial stringency suffer the threat of cuts. Such constraints mean that few programs can offer financial aid to their students; nor can they do much toward developing programs that will reach a wider clientele, particularly lower-income and minority women, who are currently somewhat underrepresented in CEW programs. Moreover, though most programs are allowed autonomy in their day-to-day operation, they are ultimately dependent upon the good will and continued support of an administrator in the parent institution. Administrative favor and financial solvency are the two determinants of a CEW program's continued existence.

SUMMARY

The adult woman who wants to return to the formal educational system after some time away from it faces a variety of difficulties. Some of these are personal: lack of information, lack of self-confidence, guilt about taking time and money away from her family societal pressures, time constraints because of family and job. Other difficulties are posed by institutional barriers: admissions requirements designed for students coming directly from high school, policies against accepting college credits after a certain time, financial aid programs designed for the traditional student, rules that discourage part-tine study, rigid course requirements, and classes scheduled at inconvenient times and places.

CEW programs are designed to facilitate the adult woman's return to education. Their effectiveness underscores the need for colleges and universitites to adopt a more flexible attitude that will allow them to accommodate to individual differences and to serve a more diverse clientele: not just adult women but other groups which at present are denied full access to postsecondary education.

FOOTNOTE: CHAPTER 6

1. We were not able to identify specific studies on this topic.

TABLE 64--Obstacles to participation in continuing education programs cited by women currently enrolled: United States, 1974
(in percentages)

Obstacles	Participating women (N=649)
Time of day classes offered	46
Location, distance, transportation	26
Costs	26
Lack of time	20
Job responsibilities	19
Family obligations	18
Lack of specific skills/abilities	15
Lack of direction/purpose	15
Lack of self-confidence	12
Lack of energy, physical endurance	11
Guilt about money	9
Guilt about neglect of children	8
Negative experience with instructor	8
Medical reasons	5
Non-supportive family attitudes	5
Other	2

SOURCE: (in press) D. C. Heath and Co., Some Action of Her Own: The Adult Woman and Higher Education, H. S. Astin, Ed. (1976).

TABLE 65--Obstacles to participation in continuing education programs cited by participating women, by race: United States, 1974
(in percentages)

Obstacles	White (N=609)	Non-white (N=37)
Costs	25	39
Lack of specific skills and/or abilities	15	29

SOURCE: (in press) D. C. Heath and Co., Some Action of Her Own: The Adult Women and High Education, H. S. Astin, Ed. (1976).

TABLE 66--Obstacles to participation in continuing education programs cited by participating women, by age: United States, 1974
(in percentages)

Obstacles	30 years and under (N=212)	31-40 years (N=206)	41-50 years (N=138)	51 years and above (N=90)
Costs	38	25	15	13
Family obligations	16	24	21	3
Job responsibilities	18	18	23	14
Lack of time	21	23	23	8
Guilt about money	10	12	6	4
Guilt about neglect of children	13	11	5	2

SOURCE: (in press) D. C. Heath and Co., Some Action of Her Own: The Adult Woman and Higher Education, H.S. Astin, Ed. (1976).

TABLE 67--Obstacles to participation in continuing education programs cited by participating women, by marital status: United States, 1974 (in percentages)

Obstacles	Single (N=108)	Married (N=426)	Separated/Divorced/Widowed (N=112)
Costs	30	17	39
Family obligations	1	18	19
Job responsibilities	19	7	12

SOURCE: (In press) D. C. Heath and Co., Some Action of Her Own: The Adult Woman and Higher Education, H. S, Astin, Ed. (1976).

TABLE 68--Financial concerns of continuing education participants enrolled in degree programs: United States, 1974
(in percentages)

Financial concerns	Participants (N=271)
Major concerns about financing education or training (not sure I will have enough funds to complete it)	21
Some concern (but I will probably have enough funds)	44
No concern (I am confident that I will have sufficient funds)	36

SOURCE: (In press) D.C. Heath and Co., Some Action of Her Own: The Adult Woman and Higher Education, H.S. Astin, (Ed.) (1976).

CHAPTER 7

IMPLICATIONS AND RECOMMENDATIONS

The findings presented in the body of this report have a number of implications that provide a framework for recommendations about programmatic efforts to be undertaken by postsecondary educational institutions. In addition, they suggest the need for research that can provide more and better information and for data collection methods. Finally, they have ramifications for current legislative efforts.

PROGRAM EFFORTS

Insofar as action to be undertaken by educational institutions is concerned, our recommendations cover three areas: high school preparation, participation in postsecondary education, and institutional policies and practices.

High School Preparation

It is evident that, if women are to have the same occupational opportunities as men do, steps must be taken by the secondary schools to ensure that they have the necessary preparation. First, girls who in high school take vocational curricula should be encouraged to diversify their fields of study from the typically "female" courses into the technical courses that are now the domain of boys. Second, high school girls enrolled in academic and college preparatory curricula should be counseled to enroll in and complete more courses in mathematics and science. As the situation stands now, women often underprepare themselves in these areas because they fail to realize that such preparation considerably enlarges their options and thus may be crucial to their future lives.

Many young women continue to believe that postsecondary education bears little relation to their future lives - one reason why fewer women than men pursue postsecondary education. In addition, high school girls are more likely than high school boys to perceive the costs of a postsecondary education as a barrier. A lack of information about financial aid resources and a tendency to underprepare in science and mathematics both impede young women in formulating and implementing their postsecondary plans. Thus, in dealing with high school girls, counselors have a dual responsibility: To help them develop more realistic outlooks about their future lives, and to provide practice and detailed information about the financial costs of an education and about sources of financial aid.

Programmatic guidance efforts can assist all high school girls to (a) change their perceptions about appropriate occupational roles for women and (b) develop a better understanding of the multiple roles they are likely to assume in the future. Specific efforts in assisting women to prepare for the future might include specially designed courses on career development, to be taken by both girls and boys. Such courses would have two components: Self-assessment of interests and competencies, and occupational information, including what types of preparation are needed for different occupations, and what their requirements and rewards are. Such courses would emphasize - through discussions and analyses - how sex-role socialization shapes occupational choices and would seek to free students from these stereotypes.

Another step that should be taken at the curricular level is to introduce high school girls early to technical and scientific material so that their interest will be aroused and their sense of competency be developed.

We would recommend that women's studies be introduced in high school so that students of both sexes can gain a greater understanding of the effects of socialization. Women's studies can elucidate the images of the woman as depicted in literature, history, and art as well as exposing the student to important women writers, artists, and scientists who may serve as role models.

In addition to curricular changes, an effort should be made to develop new guidance materials, films, pamphlets and so forth.

High school teachers and counselors are themselves products of socialization. If change is to be effected, special efforts should be made to provide them periodically with systematic training about sex-role development and about the role that socialization plays in shaping the self-perceptions, aspirations, and educational and occupational choices of women.

Since parents obviously have a profound influence on their children, the high schools should plan programs to assist parents in working with their sons and daughters on issues concerning education and career decisions. Not only must parents have complete information about postsecondary opportunities and costs, but also they must have experiences that provide for sex-role awareness.

Participation in Postsecondary Education

Examining the data on women's participation in postsecondary education, we find that a few facts stand out. First, fewer women than men enter college, and this disparity in proportions increases at each higher level of advanced study. Second, very few women attend technical institutions. Third, women in collegiate institutions tend to major in traditionally female fields, such as education and health-allied fields, even though dramatic changes have occurred in the past few years. Fourth, women in vocational education are also likely to train for traditionally female occupations.

The rather limited participation of women, and their concentration in traditionally female fields, results from socialization as to appropriate roles and occupations for women. Sex-role stereotypes continue to operate as women make decisions about their future lives. To overcome these stereotypes--which have already taken their toll in high school--colleges, and in particular technological institutions, should attempt to develop active programs for women. Such programs would include special efforts to recruit high school girls to provide them with tutorials and remediation in mathematics and science once they have been admitted.

The cost of postsecondary education is perceived by many young women as a particular problem as they make decisions about their future lives; once in a postsecondary institution, they continue to have special concerns about financing. The type and amount of financial aid available has been found to affect decisions about postsecondary education as well as persistence while in college or graduate study. Since young women in general are more likely than men to depend on their parents for supports, those whose parents do not value education for their daughters as much as for their sons may need financial aid as much or even more as the male students.

Work-study programs have been found to be an effective form of financial aid is that they encourage persistence. Women should continue to be admitted to these programs, and efforts should be made to place them in jobs traditionally reserved primarily for men. Work experiences in nontraditional areas will help women to develop new competencies and thus enlarge their options. In addition, women could be encouraged to work while in college, since such experiences will make them more independent, personally and financially. Financial independence may have additional benefits in that women will begin to view themselves as a critical part of the economy and as competent to become leaders in the future.

In graduate school, women should be encouraged to compete for research assistantships, since this experience offers the additional benefits of further learning, more interaction with mentors, and future employment opportunities. Furthermore, women should be encouraged to apply for fellowships, and professors should be encouraged to nominate women in greater numbers.

Institutional Practices and Policies

Colleges should continue to support women's studies, for the same reasons outlined earlier with respect to women's studies in high school. Moreover, since female role models are scarce in higher education in general - and in traditionally male fields in particular --special efforts are needed to give young women a chance to interact with role models, for instance, in workshops or seminars. Films on the lives and activities of successful women are a further example of possible programmatic efforts to provide role models for college women.

The lack of gynecological facilities and of day-care centers have been viewed as forms of sex discrimination in that many women need such support if they are to continue their education without undue pressure. To provide convenient and inexpensive health care, gynecological facilities should be made available as an integral part of any educational institution's medical services; one of the benefits is psychological: The provision of such facilities increases the woman's sense of belonging in the institution. Moreover, as long as a woman is expected by society to bear primary responsibility for her children and to follow her husband to a new location when he makes a change, an effort should be made to provide for child care and to permit part-time study. It would also help in such situations if institutions develop new and simpler ways of translating and accepting credit from other institutions, so that women who must follow their husbands do not lose credit for previous postsecondary experience.

RESEARCH EFFORTS

Two substantive research needs emerge. The first is for periodic data collection from high school students in order to observe trends and changes in their plans and aspirations. Whereas data from the Cooperative Institutional Research Program assisted us in documenting changes in the plans and aspirations of college students, we found no comparable information on trends among high school students, and were forced to rely solely on Project TALENT's survey of high school seniors (an obviously dated source) and on the National Longitudinal Study, a 1972 survey of high school students. Thus, we recommend that a program of research to collect data from high school students periodically and to follow up some of the cohorts be designed and instituted.

The second research need is for studies to identify the factors that influence the career decisions of women. We need to identify the personal characteristics, background, and early experiences of women who chose and pursue different fields and careers. Equally, we need to learn what variables stimulate or inhibit career development. Some of these studies may be cross-sectional, looking at young women of different ages, racial/ethnic backgrounds, and socioeconomic statuses with respect to their plans, choices, and preparation or looking at women in different fields to identify their differentiating personal characteristics, early developmental experiences, and educational experiences. Other studies should be longitudinal, identifying the critical experiences in the lives of young women that result in differential aptitudes, interests, personal traits, and values--all presumably important determinants in career choice and development. For example, how do young children begin to form concepts about work and about themselves? What kinds of home environments and parent-child interactions develop autonomy, high self-esteem, and a sense of competence in a variety of areas? What educational experiences reinforce a sense of self-worth and competence? What role do a liberal arts program, a work-study experience, career guidance, or specialized mathematics curricula play in developing aptitudes and competencies essential to appropriate career choice and development?

These studies should be framed in the context of educational institutions. The underlying question must always be: What institutional practices affect women's full development and utilization?

From this study of sex discrimination in educational access, other more specific research needs emerge.

1. To what extent do the limited career aspirations of women lead them to enter less selective and less affluent institutions? As we have seen, women aspire less frequently than men to technical and scientific careers, and this may lead them to choose smaller, more convenient, and less expensive colleges over universities where technical facilities are available. A study designed to test whether women with different career aspirations select different types of institutions, independent of aptitudes or past achievements, would be useful in resolving this question.
2. The exploratory studies we undertook on admissions (described in the main report) suggest the need to explore further (a) the factors that influence women to apply to certain kinds of institutions and not others (this is an elaboration of the study described above), and (b) the rates of acceptance for women when aptitudes, high school preparation, and career interests are controlled.
3. Earlier, we recommend a number of curricular modifications and innovations. Such efforts should be accompanied by research to evaluate the changes that result from these curricular changes.

Finally, a word must be said about methods of data collection. Although surveys provide valuable information about some facets of educational and occupational development, they cannot assess more subtle and nonverbal areas. For example, teacher-student interaction, which may affect a woman's perception of herself, cannot be studied through surveys; interviews and observations are required.

Surveys are often limited in the way they ask for information from some populations. For example, asking a Chicano student whether her parents encouraged her to pursue higher education may be inappropriate in that other family members such as an older brother may play a more important role than the parents. Thus, a simple 'yes' or 'no' answer could be misleading. Interviews with these students, however, can highlight these nuances.

LEGISLATIVE EFFORTS

The Title IX regulation implementing Education amendments of 1972 released at the same time as this study was undertaken, corresponds directly to the findings and recommendations that emerge from it. The regulations address the issues of admissions, programs, financial aid, and special services. For example, with respect to catalogs and other informational literature, Title IX requires that both the text and illustrations of such materials reflect nondiscriminatory policies. Title IX prohibits discrimination in counseling and in the use of appraisal and counseling materials. With respect to admissions, Title IX states that no test or other criterion of a discriminatory nature can be used unless it is shown to be a valid predictor. As regards financial aid, Title IX prohibits discrimination in amount, type, and eligibility. It further indicates that sex-specific monies must be matched equally with nonsex-specific money. The regulations require remedial action to overcome the effects of previous discrimination based on sex which has been found in federally assisted education programs or activities.

It also permits affirmative efforts to overcome the effects of conditions that have resulted in limited participation.

In short, Title IX addresses itself to the very issues and concerns outlined and discussed in our study. It is, however, limited to administrative enforcement by HEW and does not provide for private right of action. Thus, additional legislation is needed. The Regulation should be amended to provide for private right of action in order to ensure further that institutions comply, since the work required to monitor institutions could be prohibitive for a government agency. Moreover, as institutions are becoming sophisticated in "avoidance" tactics, this very important legislation may have little effect unless its implementation is better guaranteed.

If such an amendment is not introduced and passed, then some strong efforts should be made to assist State and local boards of education in implementing the guidelines by whatever means are appropriate at the state and local levels. Such means might include differential budgeting so that guidance efforts in the high schools will be increased. Or special monies might be made available for affirmative actions to overcome disparities in participation in educational programs and activities resulting from previous discrimination.

We would also recommend that another amendment to Title IX be introduced to cancel the current provision with respect to admissions policies exempting private coeducational institutions. If we are to encourage women to participate equally in educational experiences, exempting private institutions that may be in a position to offer valuable experiences for women while in high school or afterwards makes no sense.

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APPENDIX A

THE AUTHORIZING LEGISLATION

WOMEN'S EDUCATIONAL EQUITY

SEC. 408. (a) This section may be cited as the "Women's Educational Equity Act of 1974."

(b) (1) The Congress hereby finds and declares that educational programs in the United States (including its possessions), as presently conducted, are frequently inequitable as such programs relate to women and frequently limit the full participation of all individuals in American society.

(2) It is the purpose of this section to provide educational equity for women in the United States.

(c) As used in this section, the term "Council" means the Advisory Council on Women's Educational Programs.

(d) (1) The Commissioner is authorized to make grants to, and enter into contracts with, public agencies and private nonprofit organizations and with individuals for activities designed to carry out the purposes of this section at all levels of education, including preschool, elementary and secondary education, higher education, and adult education. These activities shall include-

(A) the development, evaluation, and dissemination by the applicant of curricula, textbooks, and other educational materials related to educational equity;

(B) preservice and inservice training for educational personnel including guidance and counseling with special emphasis on programs and activities designed to provide educational equity;

(C) research, development, and educational activities designed to advance educational equity;

(D) guidance and counseling activities, including the development of nondiscriminatory tests, designed to assure educational equity;

(E) educational activities to increase opportunities for adult women, including continuing educational activities and programs for underemployed and unemployed women;

(F) the expansion and improvement of educational programs and activities for women in vocational education, career education, physical education and educational administration.

(2) A grant may be made and a contract may be entered into under this section only upon application to the Commissioner, at such time, in such form, and containing or accompanied by such information as the Commissioner may prescribe. Each such application shall--

(A) provide that the program or activity for which assistance is sought will be administered by or under the supervision of the applicant;

(B) describe a program for carrying out one of the purposes set forth in subsection (a) which holds promise of making a substantial contribution toward attaining such purposes; and

(C) set forth policies and procedures which insure adequate evaluation of the activities intended to be carried out under the application.

(3) The Commissioner shall approve applicants and amendments thereto which meet the requirements of paragraph (2).

(4) Nothing in this section shall be construed as prohibiting men from participating in any programs or activities assisted under this section.

(e) In addition to the authority of the Commissioner under subsection (d), the Commissioner shall carry out a program of small grants, not to exceed $15,000, each, in order to support innovative approaches to achieving the purpose of this section; and for that purpose the Commissioner is authorized to make grants to public and private nonprofit agencies and to individuals.

(f) (1) There is established in the Office of Education an Advisory Council on Women's Educational Programs. The Council shall be composed of--

(A) seventeen individuals, some of whom shall be students, who shall be appointed by the President, by and with the advice and consent of the Senate, from among individuals broadly representative of the general public who, by virtue of their knowledge or experience, are versed in the role and status of women in American society;

(B) the Chairman of the Civil Rights Commission;

(C) the Director of the Women's Bureau of the Department of Labor; and

(D) the Director of the Women's Action Program of the Department of Health, Education, and Welfare.

The Council shall elect its own Chairman.

(2) The term of office of each member of the Council appointed under clause (A) of paragraph (1) shall be three years, except that--

(A) the members first appointed under such clause shall serve as designated by the President, six for a term of one year, five for a term of two years, and six for a term of three years; and

(B) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term.

(3) The Council shall--

(A) advise the Commissioner with respect to general policy matters relating to the administration of this section;

(B) advise and make recommendations to the Assistant Secretary concerning the improvement of educational equity for women;

(C) make recommendations to the Commissioner with respect to the allocation of any funds pursuant to this section, including criteria developed to insure an appropriate geographical distribution of approved programs and projects throughout the Nation; and

(D) develop criteria for the establishment of program priorities.

(4) From the sums available for the purposes of this section, the Commissioner is authorized and directed to conduct a national, comprehensive review of sex discrimination in education, to be submitted to the Council not later than a year after the date of enactment of this section. The Council shall review the report of the Commissioner and shall make such recommendations, including recommendations for additional legislation, as it deems advisable.

(5) The provisions of part (D) of the General Education Provisions Act shall apply with respect to the Council established under this subsection.

(f) The Commissioner is directed, at the end of each fiscal year, to submit to the President and the Congress and to the Council a report setting forth the programs and activities assisted under this section, and to provide for the distribution of this report to all interested groups and individuals, including the Congress, from funds authorized under this section. After receiving the report from the Commissioner, the Council shall evaluate the programs and projects assisted under this section and include such evaluation in its annual report.

(h) For the purpose of carrying out this section, the Commissioner is authorized to expend not to exceed $30,000,000 for each fiscal year prior to July 1, 1978.

APPENDIX B

ANALYSIS OF CATALOGS

Outline of Content Analysis: Institutional Catalogs

Name of School____

Date of Catalog_______________________________________

Type____

(four year, community college, vocational (type), etc.)

Location____

(city, state)

Selectivity____

I. Total Number of half pages in general information, admission requirements, academic policy, student personnel service, and financial aid sections______________________________

Number of half pages devoted to women only_______________

Number of half pages devoted to men only_________________

II. Special Admissions Policies

	Mentioned	Not Mentioned	If Mentioned, Population and Requirements
Affirmative Action Statement (may appear elsewhere in catalog)	______	______	________
Non-degree students	______	______	________
Continuing education	______	______	________
Extension	______	______	________

If there are any differential references to groups by sex, age, or race, specify:

III. Academic Policies

For women only:

For men only:

IV. Housing

Restrictions or Regulations

For women only:

For men only:

V. Codes of Conduct

For women only:

For men only:

VI. Social or Subject Clubs (include physical activities)

For women only:

For men only:

VIIa Counseling Services

Description and number of staff (including sex of staff):

Hours open:

Services	Mentioned	Not Mentioned
Individual or personal counseling	________	____________
Group counseling	________	____________
Educational counseling	________	____________
Career Advisement	________	____________

VIIa Counseling Services (continued)

Services	Mentioned	Not Mentioned
Education library		
Testing services		
Minority counselor		
Other Special Services		

b. Special Services

	Mentioned	Not Mentioned
Women's Resource Center		
Gynecological Services		
Day/Child Care		
Study Skills Assistance		
Placement Service		
Career Library		

VIII Special Grants or Scholarships

For Women Only

Number

$

Amount

For Men Only

Number

$

Amount

For Minority

Number

$

Amount

IXa Analysis of Department Descriptions

	Male Referenced	Female Referenced	Both Sexes	Sex Unspecified
Mathematics				
Biology				
Psychology				

IXa Analysis of Department Descriptions (continued)

	Male Referenced	Female Referenced	Both Sexes	Sex Unspecified
English				
Business				
Education				

b. Women's studies

Mentioned	Not Mentioned

Number of courses ________________

Major available Yes ______ No ____________

c. Physical Education

	Mentioned	Not Mentioned
Degree program in P.E. for women		

Number of courses for men only ________________

Number of courses for women only ______________

Description of men's facilities and faculty (xerox and attach)

Description of women's facilities and faculty (xerox and attach)

X. Administration

	Number of Men	Number of women
President		
Vice-Presidents		
Middle Administrators (admissions, registrar, financial aids)		
Deans		
Associate/Assistant Deans		
Counseling Services staff		

XI Faculty

	Number of Men	Number of Women
Full or Associate		
Assistant or Lecturer		

XII Enrollment

Year ____________	Number of Men	Number of Women

XIII Number of Quotes

Number by Men	Number by Women

XIV Illustration Analysis (pictures)

	Number
A. Men only	
Women only	
Men and women	
Unspecified	

B. List activities portrayed in illustrations:

For men:	For women:

SAMPLE OF INSTITUTIONS

East N = 32

School	State
Northeastern University	Massachusetts
Cazenovia College	New York
Vermont Technological College	Vermont
Hofstra University	New York
Schenectady Community College	New York
Allegheny College	Pennsylvania
Howard Community College	Maryland
Chatham College	Pennsylvania
Darmouth College	New Hampshire
Lock Haven State College	Pennsylvania
Russell Sage College	New York
Mount St. Mary's	Maryland
Sarah Lawrence College	New York
Dominican College of Blauvelt	New York
Wheaton College	Massachusetts
University of Hartford	Connecticut
Curry College	Massachusetts
Bard College	New York
Radcliffe College	Massachusetts
CUNY - Queens College	New York
U.S. Coast Guard Academy	Connecticut
University of Maryland, Baltimore Co.	Maryland
SUNY - Oswego	New York
Baptist Bible College	Pennsylvania
Chestnut Hill College	Pennsylvania
D'Youville College	New York
Providence College	Rhode Island
St. Anselm's College	New Hampshire
Carnegie - Mellon University	Pennsylvania
Georgetown University	District of Columbia
Yale University	Connecticut
Boston University	Massachusetts

MIDWEST N = 31

School	State
St. Mary's Junior College	Minnesota
Forest Park Community College	Missouri
Bethany Lutheran College	Minnesota
Lincoln College	Illinois
Grand View College	Iowa
Missouri Baptist College	Missouri
Cleveland State University	Ohio
Indiana Institute of Technology	Indiana
Southwest Minnesota State College	Minnesota
Mundelein College	Illinois
Webster College	Missouri
Loyola University	Illinois
Wabash College	Indiana
Carleton College	Minnesota
St. John's University	Minnesota
Olivet College	Michigan
Chicago State University	Illinois
Peru State College	Nebraska
University of Wisconsin--Whitewater	Wisconsin
Huron College	South Dakota
Lake Forest College	Illinois
Otterbein College	Ohio
MacMurray College	Illinois
College of Emporia	Kansas
St. Norbert College	Wisconsin
Viterbo College	Wisconsin
Bowling Green State University	Ohio
Iowa State University of Sci. & Tech.	Iowa
College of St. Catherine	Minnesota
Cowley County Community Junior Co.	Kansas
University of Iowa	Iowa

South N = 24

School	State
Kentucky State College	Kentucky
Cullman College	Alabama
Sue Bennett College	Kentucky
Daniel Payne College	Alabama
Webber College	Florida
Tyler Junior College	Texas
Utica Junior College	Mississippi
Univ. of South Carolina - Spartansburg	South Carolina
Jackson State College	Mississippi
Sweet Briar College	Virginia
Loyola University	Louisiana
Austin Peary State University	Tennessee
Louisiana Polytechnic Institute	Louisiana
George Mason University	Virginia
Pfeiffer College	North Carolina
Longwood College	Virginia
Mississippi State College for Women	Mississippi
Carson-Newman College	Tennessee
Warren Wilson College	North Carolina
Our Lady of the Lake College	Texas
Mississippi State University	Mississippi
University of Miami	Florida
Florida Keys Junior College	Florida
Kittrell College	North Carolina

WEST N = 13

School	State
City College of San Francisco	California
University of Colorado	Colorado
Mira Costa College	California
Ricks College	Idaho
College of Santa Fe	New Mexico
Lewis & Clark College	Oregon
Idaho State University	Idaho
Claremont Men's College	California
Fresno State College	California
Northwest College	Washington
Lone Mountain College	California
University of California, Berkeley	California
Colorado College	Colorado

PROPRIETARY INSTITUTIONS

Fashion Institute of Design and Merchandising
Los Angeles, California

Marian Court Secretarial School
Swampscott, Massachusetts

Allstate Business College
Dallas, Texas 75201

New Kensington Commercial School
New Kensington, Pennsylvania 15068

Sullivan Business College
Louisville, Kentucky 40202

Lincoln School of Commerce
Lincoln, Nebraska 68501

Sawyer College of Business
Cleveland Heights, Ohio 44118

Minneapolis Patricia Stevens Schools
Mineapolis, Minnesota 55402

Strayer College
Washington, D.C.

Tampa College
Tampa, Florida 33609

North Alabama College of Commerce
Huntsville, Alabama 35801

ITT Technical Institute
Dayton, Ohio 45414

Massey Junior College, Technical Division
Atlanta, Georgia 30303

United Health Careers Institute
San Bernardino, California 92405

The Bryman School
Los Angeles, California 90025

Northwestern Electronics Institute
Minneapolis, Minnesota 55406

Rhode Island Trades Shops School
Providence, Rhode Island 02903

Humboldt Institute
Minneapolis, Minnesota 55404

Sooner Mechanical Trade School
Oklahoma City, Oklahoma 73106

APPENDIX C

ANALYSIS OF APPLICATIONS AND ACCEPTANCES

List of Institutions

Boston University

Cornell

Emory

Johns Hopkins

Northwestern

Lake Forest

Carleton

Chatham

Dartmouth

Lawrence University

Oberlin

Pomona

Swarthmore

Wesleyan

University of Southern California

University of California at Santa Cruz

University of Michigan

University of Virginia

University of Illinois

SUNY at Stoney Brook

Question from the 1975 Freshman Information form.

What were the other colleges to which you applied for admissions? (If you applied to more than three others, name the three that were most preferred):		Were you accepted for admission		How much financial aid were you offered for the first year?		
Name of Institution	City, State	Yes	No	Grants	Loans	Work-Study
1.____________________		○	○	$_____	$____	$_____
2.____________________		○	○	$_____	$____	$_____
3.____________________		○	○	$_____	$____	$_____

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National Center for Education Statistics
Education Division
U.S. Department of Health, Education and Welfare

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SEX DISCRIMINATION IN EDUCATION: ACCESS TO POSTSECONDARY EDUCATION

ANNOTATIONS (Volume II)

by

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American Council on Education. **Federal student loan programs.** Policy Analysis Service Reports, 1 (1). Washington: author, 1975, 19 pp.

Financial Aid. Federal Student Loan Programs.

This seminar report focuses on some of the issues arising from the two major federally supported student loan programs, the National Direct Student Loan program (NDSL) and the Guaranteed Student Loan Program (GSLP). An 18-month study on the cost of financing undergraduate education at nine high-cost private institutions is described. One issue identified as needing further consideration is the special problems of women borrowers whose work patterns and income patterns differ from those of men. It is doubtful that present loan programs reflect these differences, as well as differences in the ability to repay, sufficiently.

Several points which demand legislative attention are raised, including the elimination or phasing out of NDSL, the creation of alternative repayment schedules, the elimination of the interest subsidy, the development of an income-contingent schedule for low earners, and the need for a parental loan plan. The Office of Education's model on loan defaults is presented. Using this model it has been found that the best predictor of a loan default is type of institution attended. Five major questions to which state student loan guarantee agencies require answers before a stable student loan program can be established are discussed. (no references)

2

American Psychological Association (APA), Task Force on Issues of Sexual Bias in Graduate Education. A Content Analysis of Sexual Bias in Commonly Used Psychology Textbooks. Washington, D.C.: APA, 1973, 25 pages.

Sex-Role Stereotypes. Sex Differences. Content Analysis. Psychology Texts. Graduate Education.

This pilot study content analyzes 13 textbooks frequently used in graduate psychology programs. Texts in the areas of clinical, physiological and social psychology, psychopathology, child development, history, learning, personality, tests and measurement are included. The six criteria used for the content analyses are 1) proportion of content devoted to women and to men, 2) total number of references in Author Index and Subject Index to women and to men, 3) generalizations to human behavior from all male, all female, male and female, and sex unspecified norm groups, 4) sex associated descriptors, 5) sexist colloquialisms and commentaries and 6) sex differences and alternative explanations. The task force finds a commendable absence of gross sexist content. Instances of sexism are more problems of omission than commission. Failure to discuss sex differences or to limit their discussions to genetic-based interpretations is cited, as is failure in many studies to include the sex of subjects and experimenter, as poor scholarship. The practice of making unwarranted generalizations to people-in-general from research based on one sex (usually male) or from studies which neglect to include sex of the subjects is strongly discouraged. The use of stereotypic terms in technical materials, e.g. using "mothering" instead of "nurturing", is also cited as poor scholarship. Suggested guidelines pertinent to both literary style and content to counter English language's bias toward the masculine, conclude the report. (6 references)

3

Association for Measurement and Evaluation in Guidance (AMEG) Commission. AMEG Commission report on sex bias in interest measurement. Measurement and Evaluation in Guidance, 1973, 6 (3), 171-177.

Vocational Interests. Sex-Role Stereotypes. Sex Bias. Methodological Considerations. SVIB. SCII.

This report by the AMEG Commission on Sex Bias in Measurement done at the request of the American Personnel and Guidance Association (APGA) Senate attempts to define sex bias as a statement of its own values and as a guide for evaluating interest inventories. The main concern of the Commission is that results of interest inventories not limit occupational options for either sex. While the Strong Vocational Interest Blank (SVIB) was identified in the resolution as of primary interest, the Commission sought to address consideration of sex bias in all interest inventories. The Commission identified actual items in the inventory, use of homogeneous scales, use of occupational scales and norming procedures as potential areas of sex bias. The nature of the bias and possible remediation in each area are discussed. An evaluation of the SVIB, Forms TW398 and T399 shows sex bias. The proposed revision (Strong-Campbell Interest Inventory) presents a potential improvement. "The new SCII has a common pool of items edited for sexually stereotypical wording and provides homogeneous scales which can be equally useful for men and women in the presence of more limited occupational scales" (p. 175). However, the proof of the reliability and validity of this new inventory depends on future empirical data collection. (9 references)

4

Astin, A.W. Racial Considerations in Admissions. In: Nichols, D.C., and Mills, O.,(Eds.) The Campus and the Racial Crisis. Washington: American Council on Education, 1970. pp. 113-41.

Admissions. Recruitment. Black Students.

This paper attempts to elucidate basic questions about the entire rationale of admissions practices in American colleges and universities in the context of racial considerations. Some of the basic assumptions involved in the use of aptitude test scores and high school grades in college admissions are explored and recent empirical evidence concerning the relative usefulness of these measures for students of different races is presented. The author concludes that criteria other than high school grades and scores on tests of academic ability could probably be employed in the admissions process with only minor unfavorable effects on the level of academic performance and on the dropout rate. Generally, black students perform academically at the level that would be predicted from their high school grades and test scores; dropout rates of black students attending white colleges are slightly lower than is predicted from grades and test scores. The goal of furthering racial integration in colleges basically conflicts with the use of purely meritocratic standards in admissions. Predominantly white colleges that lower their admissions standards (with respect to required grades and test scores) in order to admit more blacks are not likely to experience significant changes in their dropout rates, although these students will tend to have lower grades than other students. If significantly more integration is to be achieved, individual colleges must make a greater attempt to encourage non-college-bound black students to attend college. Lowering admissions standards does not necessarily result in the lowering of academic standards. The principal purpose of the admissions process should be to select students who are most likely to benefit from the institution's educational program and these may not be the most highly able students. (12 references)

Astin, A.W. Preventing Students from Dropping Out. San Francisco: Jossey-Bass, 1975, 204 pp.

Dropouts. Undergraduate students. Financial aid. Employment. Residence and Campus Environment. Student Personal Background Characteristics. Institutional Characteristics. Student-Institutional Fit.

This book seeks to identify practical measures to minimize students' chances of dropping out of college. It is based on the results of a national survey conducted in 1968 and on a follow-up survey four years later. The sample consists of 41,356 undergraduates at 358 representative two- and four-year colleges and universities. The sample was reduced to 38,703 when dropouts were defined, for the purposes of this study, as those students who had originally planned to earn a bachelor's degree but who subsequently failed to do so. The sample was composed of 57.6% men, 90% whites, 7.2% blacks, and 2.8% "other" minorities. Three categories of educational attainment were defined: persisters, 65% of the sample; stopouts, 10.9%; and dropouts, 24.3%.

Using multivariate analyses, personal background characteristics of entering freshmen that are useful in estimating a given student's chances of dropping out are determined. The effect of financial aid on student attrition is considered. The author finds the source and amount of financial aid can be an important factor in a student's ability to complete college and that student persistence will be maximized if funds are concentrated in work-study programs and, to a lesser extent, in grant programs rather than in loans. In general, any form of aid appears to be most effective if it is not combined with other forms. A student's chances of finishing college can also be significantly influenced by type and extent of employment; the ideal job appears to be on-campus and part-time. Environmental circumstances affect student persistence. Living in a dorm the freshman year and participation in extracurricular activities, especially membership in social fraternities and sororities, is related to staying in college. Grade point average is strongly related to persistence.

The type of institution can have a significant impact on the student's chances of completing college. These chances can be maximized by attending a private university in any region or a public four-year college located in the northeastern or southern states. They are minimized by attending a two-year institution. In general, persistence appears to be enhanced if the student attends an institution in which the social backgrounds of other students resembles his/her own social background.

The author then summarizes the implications of these findings for various categories of decision-makers: institutional administrators, faculty members, educational policy-makers, and prospective college students. He predicts which policies are likely to minimize the number of dropouts as well as the number and percentage of potential dropouts who can be salvaged. Likely results of alternative policy actions are presented separately for men and women, blacks and whites, married and unmarried students, and students of different abilities and backgrounds.
(55 references)

6

Astin, A.W. Financial Aid and Student Persistence. Los Angeles: Higher Education Research Institute, 1975b, 24 pp.

Financial Aid. Aid Packages. Persistence. Sex Differences.

This monograph reports the findings of analyses designed to determine if the type and amount of aid and the conditions of its administration have any effect on students' chances of completing college. Student persistence was calculated from the longitudinal follow-up data collected by the Cooperative Institutional Research Program in 1972 from students who were initially surveyed when they began college in 1968. Expected probabilities of dropping out were computed using student background characteristics and environmental measures. If a particular form of financial aid has a positive effect on student persistence, the actual drop-out rate for students who receive that aid should be lower than the expected rate.

Various forms of aid and aid "packages" are discussed relative to college persistence. The evidence indicates that the sources and amount of financial aid can be important factors in a student's ability to finish college. Except for women who come from high-income families, parental support generally enhances student's ability to complete college. Chances of dropping out decrease 28 percent for men and 15 percent for women when the spouse provides major rather than no support. However, if only minor support is furnished by the spouse, the impact is reversed; dropout rates increase by 30 percent for men and eight percent for women. Scholarships and grants are associated with small increases in persistence rates though these effects are confined largely to women from low-income families and men from middle income families. The effects of loans on the persistence of women students is highly variable depending on amount and parental income level. Federal work-study participation enhances persistence especially among women and blacks. Reliance on savings decreases persistence for all groups studied. The only aid "package" associated with greater persistence was work-study with major loan support. Implications of these findings for institutional administrators and funding policy-makers are discussed. (7 references)

Astin, H.S. (Ed.) Some Action of Her Own: The Adult Woman and Higher Education. In press, 1975, 194 pp.

Adult Women Students. Continuing Education for Women.

This study was designed to give an analytic account of the development of continuing education for women (CEW) programs, of their impact on the lives of the women they serve, and of their influence on the institutions which house them and on higher education in general. Fifteen CEW programs, selected to represent the diversity of existing programs, were studied in 1974. During the project's first phase, case studies were conducted through site visits and in-depth interviews were held with administrators in the parent institution, the program's director and staff, and women who had participated or were participating in the program. Spouses and children of the women were also interviewed. The second phase involved a mail survey of 1,000 current participants, 300 of their spouses, and 1,000 alumnae of the 15 programs. Usable responses to the mail survey were obtained from 68 percent of the current participants, 61 percent of the alumnae, and 54 percent of the spouses. The method of analysis included frequency distributions, cross tabulations, and regression analysis.

The 15 case study CEW programs are described in terms of their genesis, evolution, services, methods of operation, relation to their parent institution, special problems and strengths, and their impact. A profile of the women enrolled in these programs is presented and their home life is discussed. A final speculative chapter comments on trends in the next 15 years and the future of CEW programs. (66 references)

8

Attwood, C. L. Women in Fellowship and Training Programs. Washington, D. C.: Project on the Status and Education of Women, Association of American Colleges, 1972. 32 pp.

Financial Aid. Recruitment and Selection in Fellowship Programs. Graduate Women.

This pamphlet reports the results of a survey of fellowship programs and makes recommendations for increasing the participation of women in fellowship, traineeship, and internship programs. The survey included 68 different fellowship programs sponsored by 28 government agencies, private organizations, and foundations. Programs were selected for study mainly on the basis of size and national visibility. Program sponsors were asked to provide data on numbers and percentages of women applicants and recipients, recruiting and selection procedures, content of application forms, the number of women on selection boards, and policies against sex discrimination; all but a few responded with the information requested.

The survey found far fewer women than men apply or are nominated for fellowships and that the success of those women who do apply or are nominated varies widely. Women appear to play an insignificant role in the selection process. The author then raises a number of key questions about women in fellowship programs under two general queries: 1) Why are so few women applying or nominated to these programs, and 2) Why do women who apply have greater success in some programs than in others.

Recommendations for increasing the number of women who apply are: 1) develop an Affirmative Action plan, 2) redesign informational and promotional materials, 3) generate more publicity about the program where women are likely to learn about it, 4) specifically call attention to the program's requirements, and 6) allow for part-time use of awards. Further recommendations for increasing the number of women who receive awards are: 1) develop an official policy forbidding discrimination on the basis of sex, 2) increase the number of women involved in the selection process, 3) review selection procedures and policies, 4) comply with Title IX, and 5) review dependency allowances to determine if they are awarded on an unequal basis.

The author concludes that the participation of women in fellowship programs needs to be increased, in part because such participation constitutes an important credential necessary for career upward mobility. At this time the demand for fellowship aid far exceeds supply and whether or not women achieve parity depends to a great extent on the importance fellowship sponsors attach to the goal of funding female students and professionals. (6 references)

9

Bengelsdorf, W. Women's Stake in Low Tuition. Washington, D.C.: American Association of State Colleges and Universities, 1974, 17 pp.

Women's Education. Educational Discrimination. Unequeal Education. College Women.

Based on a review of the literature, this pamphlet examines ways in which women are discriminated against in obtaining funds for higher education. Lowering tuition would have a direct effect on the number of women attending colleges and universities; between 75 and 90 percent of all well-qualified students who do not attend college are women. In college-administered financial aid programs there is evidence that women get proportionately less financial help than men. Women also receive much less aid from athletic scholarships. A survey published in 1972 finds 80 to 90 percent of the most prestigious graduate fellowships and awards go to men. Studies show that women have fewer opportunities for employment both during the school year and in the summer, and receive lower wages than men when they do work. Equal treatment for part-time students is a priority issue for women. Many colleges charge higher tuition rates for part-time than for full-time students. Women have less money to pay for education, because of major discrimination in employment and income. Given their lower incomes and family responsibilities, most women are not able to save money for education. Both single and married women are discriminated against in borrowing money.

To remedy this discriminatory situation the author suggests action organizations and individuals can take to increase awareness of the effects of high tuition and to bring about lower tuitions. (37 references)

9

Berger, C. R. Sex differences related to self-esteem factor structure. Journal of Consulting and Clinical Psychology, 1968, 32 (4), 442-446.

Self-esteem. College Students.

This two-phase study explores the factorial nature of the self-esteem construct. In phase one, data from a prior study of self-esteem in 298 college men and women were factor analyzed to identify the factors involved in self-esteem. In phase two, a second overall analysis and separate analyses of 194 male and 78 female undergraduates were performed to explore sex differences in self-esteem.

Results of the first phase yielded five relatively independent factors of self-esteem: Communicative propensity, other-anxiety, negative self-evaluation, positive self-evaluation, and other-certainty. The second overall analysis produced a similar factor structure. However, the separate analysis of the female data revealed that the negative self-evaluation and other-certainty factors formed a single dimension. This connection, which does not appear for males, suggests that the self-evaluation of females is partially contingent on their degree of certainty that other people like them. Explanation of this apparent sex difference would require further inquiry into the developmental aspects of self-esteem. (6 references)

(from H. S. Astin, A. Parelman and A. Fisher. Sex Roles: A Research Bibliography, Washington, D.C.: U.S. Government Printing Office, 1975.)

11

Bernard, J. Academic Women. University Park, Pennsylvania: The Pennsylvania State University Press, 1964. 331 pp.

Higher Education. Academic Reform.

In this study of the sociology of academic women, the author reveals the low status of such women and the need for institutions of higher education to eliminate institutional barriers that prevent women from full participation in academic life. Women are concentrated in the low-prestige positions of teaching (principally in undergraduate departments), and few are in high academic or administrative positions. It often appears that women prefer to be teachers, while men prefer to be "men of knowledge." Also, in campus social life, women faculty members achieve status on the basis of their sex, rather than academic profession or achievements. Thus, they are treated and are expected to behave like faculty wives at social gatherings.

An examination of the lives of several early academic women - Maria Sanford, Ellen Swallow Richards, Florence Sabin, Alice Freeman Palmer, M. Carey Thomas, Vida Scudder, Ruth Fulton Benedict - shows the strengths of their belief in reform and idealism. Today, although many women are brighter than their male peers, their devotion to reform is somewhat less than, or different from, that exhibited by academic women earlier. Although academic women generally do not achieve the same status and prestige as academic men, there is little support or evidence that it is the result of discrimination. Their lower status is probably due to the lowered supply of qualified academic women. The author draws on autobiographical accounts of academic women, interviews, existing literature, and the results of the Pennsylvania State University Studies on academic performance, the Matched Scientists Study, and the Biological Sciences Communication Project Study of Laboratory Bioscientists to develop her discussion.

(From H.S. Astin, N. Suniewick, and S. Dweck. Women: A Bibliography on their Education and Careers. Washington, D.C.: Behavioral Publications, 1974.

12

Bernard, J. Where are we now? Some thoughts on the current scene. Unpublished address to the American Psychological Association, 1975, 23 pp.

Sex Discrimination. Academic Women.

This paper distinguishes between blatant and subtle forms of behavior that have discriminatory consequences for women, attempts to explain these behaviors in terms of a "male-turf" paradigm, and reviews the policy implications of such behavior with suggestions of ways to use available legal resources. The author distinguishes two general categories of behavior that have discriminatory consequences for women: 1) the stag effect which is the result of a complex of exclusive customs, practices, attitudes, conventions, and other social forms which protect the male turf from the intrusion of women, and 2) the putdown. The detrimental effects of both the stag effect and the putdown in interfering with one's position in the communication system and in damaging women's self-concept, lowering their aspirations, and constraining their professional success are discussed. Both individual and collective coping mechanisms for dealing with the subtler aspects of discrimination are considered. Various paradigms which have been developed to explain male-female relationships are presented.

A fairly adequate set of legal and administrative resources exists for dealing with practices that have blatantly disciminatory consequences for women; the author believes legal resources are also available to deal with the subtler forms of discrimination. Ways in which Title IX of the Education Act of 1972 and the 14th amendment could be used to combat subtle forms of discrimination are discussed. The author feels it is important to challenge the subtler forms of discrimination as well as the more blatant forms now. (29 references)

13

Bickel, P.J., Hammel, E.A., and O'Connell, J.W. Sex bias in graduate admissions: Data from Berkeley. Science, 1975, 187, 398-404.

Admissions. Graduate Students. Socialization. Women's Traditional Fields.

This article explores some of the issues of measurement and assessment involved in determining the existence of sex discrimination against women applying to graduate school at the University of California, Berkeley. The data consists of 12,763 applications for admission to graduate study for the fall 1973 quarter.

An examination of aggregate data for the campus shows a clear but misleading pattern of bias against female applicants. An examination of the disaggregated data shows few decision-making units that have statistically significant departures from expected frequencies of female admissions, and about as many units seem to favor women as to favor men. If the data are correctly pooled, taking into account the autonomy of departmental decision-making, thus correcting for the tendency of women to apply to graduate departments that are more difficult for applicants of either sex to enter, there is a small, statistically significant bias in women's favor. The graduate departments that are easier to enter tend to be those that require more mathematics preparation. The authors find the bias in the aggregated data does not appear to result from any pattern of discrimination on the part of the admissions committees but from prior screening at earlier levels of the educational system. Women are directed by their socialization and education toward graduate fields that are generally more crowded, are less productive of completed degrees, are less well funded, and frequently offer poorer professional employment prospects. (5 references)

14

Birk, J.M. Interest inventories: A mixed blessing. Vocational Guidance Quarterly, 1974 (June), 280-286.

Sex-role Stereotypes. Vocational Interests. Career Development. Sex Differences. Counselor Attitudes. SCII.

This article reviews the studies and position papers on the existence of sex-role bias in the use of interest inventories with women. The effectiveness of interest inventories in counseling women is limited. The inventories, especially the women's forms, tend to restrict career choices for women. Men's and women's options are significantly expanded when both forms are given to each sex. The development of one interest inventory form that controls for sex differences is recommended. The Strong-Campbell Interest Inventory (SCII) may be such an instrument. Studies which examined manuals, profiles and interpretive inventory materials found evidence of stereotypic attitudes and expectations. Recommendations for minimizing errors and misrepresentations in interpretations of results and for increasing counselor's effective use of the materials are included. Publisher's revisions are also noted.

Counselor and client attitudes impact and interact with the interpretation of vocational interest inventories. Results of counselor attitude studies indicate that both men and women counselors see traditional careers as more appropriate for women than non-traditional "male" careers. However, there is some conflicting evidence. Little is known about counselor's sex-appropriate perceptions for male counselees. More research in this area is required. There is some evidence that clients stereotypic attitudes are self-limiting relative to career options. If the full range of career opportunities are to be extended to both sexes, vocational interventions, such as interest inventories, must be revised along non-sexist lines and societal, counselor's and counselee's sex biases must be exposed and counteracted. (30 references)

15

Birk, J.M. Reducing sex-bias - Factors affecting the client's view of the use of career interest inventories. In E.E. Diamond (Ed.) Issues of Sex Bias and Sex Fairness in Career Interest Measurement. Washington, D.C.: U.S. Department of Health, Education and Welfare, 1975. Pp. 101-121. (Available from Educational Work, National Institute of Education, Washington, D.C. 20208.)

Sex-Role Stereotyping. Sex Bias. Vocational Interests. Inventories. Counselor Attitudes.

This paper reviews research and documents dealing with the issues of sex bias in the use of interest inventories. The focus is on factors that affect the client's view of the whole career exploration process. Potential sources of bias have been identified as the inventory itself, the manual and instructions, the interpretation of the inventory results through published materials, and counselor's and client's perceptions of the results. Four major interest inventories are reviewed, the Strong Vocational Interest Blank, the Kuder Occupational Interest Survey, the Self-Directed Search, and the Minnesota Vocational Interest Inventory. Both explicit suggestions and subtle implications that may be deleterious to women clients' career exploration are present in the inventories. Sex-role stereotyping needs to be explicitly discussed in manuals. Since stereotypes develop early, pre-vocational experiences need to be expanded to maximize the range of vocational interest and aspirations for both men and women. Research is needed to discover developmental patterns of women's career interests. Counselor workshops for sex-role awareness and for countering the biases of stereotypes are recommended. Revisions of interest measures, manuals and interpretative materials are needed to aid counselors in bias-free exploration. (65 references)

16

Birk, J.M., Cooper, J. and Tanney, M.F. Racial and Sex-Role Stereotyping in Career Illustrations. Paper presented at the meeting of the American Psychological Association, Montreal, 1973.

Sex-Role Stereotypes. Racial Stereotypes. Career Aspirations. Career Information.

This paper presents some results of an investigation into the existence of sex-role stereotyping and racial stereotyping in career illustrations of popular career information materials. A coding manual based on a categorization system used by Zimet (1972) was developed and two graduate counseling students were trained in using it to rate illustrations for sexual and racial stereotyping. The Encyclopedia of Careers and Vocational Guidance, Volumes I and II (1972), the Science Research Associates Occupational Briefs (1973), the Occupational Outlook Handbook (1972) and a selected array of career pamphlets and brochures were sources of the illustrations rated.

The American world of work, as presented in these illustrations, seems to be almost exclusively populated by white men. White men's jobs appear to be more exciting, challenging and autonomous; 71% of the career representative in illustrations of professional, managerial and technical occupations were men. Women are most often shown as nurses, teachers, secretaries or caretakers of children. Black men and white women are often shown in similar roles as assistants, helpers and service givers. Men are shown as more active and outdoor oriented; women show more positive affect in the illustrations. Career illustrations do not even accurately portray the presence of women and minorities in various occupations. A subtle, but pervasive impression of sex-appropriate and race-appropriate career aspiration may be conveyed by many of them. While the authors find it encouraging that women and some minorities are seen as career representatives in some non-traditional areas, they feel men are too rarely shown in non-traditional, or "feminine" roles. (no references)

17

Birk, J.M., Cooper, J. and Tanney M.F. Stereotyping in Occupational Outlook Handbook Illustrations: A Follow-Up Study. Paper presented to the American Psychological Association, Chicago, 1975. 11 pages.

Sex Stereotypes. Racial Stereotypes. Career Literature.

This study is a follow-up to a comprehensive 1973 study of illustrations in popular sources of career literature. Since the 1973 study the Occupational Outlook Handbook (OOH) has been revised. This study compares the revised 1974-75 OOH with the 1972-73 edition. Analysis of the illustrations was done by a graduate student in Counselor Education using a coding manual adapted from Zimet. The rater was trained so that results of this analysis could be compared with the previous one.

Results of the analysis show that women are underrepresented in the OOH, while men and ethnic minorities are overrepresented. Comparison of the 1972-73 with the 1974-75 illustrations yeilds a chi-square value that is not significant, i.e., the illustrations in both editions are basically the same in distribution of men, women, whites and blacks. The distribution of male and female career representatives is unchanged, between the two editions. A greater proportion of women are still shown as a) smiling and generally pleasing, b) in helping or service roles, c) in a sedentary or inactive posture.

This analysis also includes evaluation of illustrations by Dictionary of Occupational Titles classifications. An analysis of the large proportion of women illustrated in clerical and sales occupations yields a significant chi-square value. This type of analysis for the 1972-73 edition is not available.

The authors suggest that the widespread use of the OOH with its sex and race stereotyping needs to be counteracted by use of literature and information which shows women and minorities in non-traditional roles and careers. (11 references)

18

Boyer, E. Women--Are the Technical-Occupational Programs Attracting Them? Washington, D.C.: Women's Equity Action League Educational and Legal Defense Fund, 1974, 7 pp.

Women in Nontraditional Fields. Technical-Occupational Programs. Enrollment. Recruitment.

This study examined the extent to which schools offering certain technical-occupational programs have adapted to the need to train women for nontraditional employment fields. Questionnaires, sent to the presidents of 830 publicly supported two-year colleges that had technical-occupational programs requested information about increases from the academic year 1972-73 in the numbers of women enrolled and teaching in 14 programs and the use of certain efforts to attract women to these programs. Responses were received from 40.1 percent of the schools surveyed.

The author found that enrollment of women is still slight in many of these programs, and is increasing only very gradually, either numerically or percentage-wise as compared to male enrollment. Those institutions which have made a certain amount of effort to attract women students to these programs have had modest success. Institutions which have made considerable effort have rather uniformly been able to increase their enrollments of women in these 14 programs. (17 references)

19

Brandenburg, J.B. The Needs of Women Returning to School. Personnel and Guidance Journal, 1974, 53 (1), 11-18.

Adult Women Undergraduates. Counseling. Child Care. Financial Aid. Admissions.

This article discusses the needs and problems of women returning as regular, matriculated, day session students at an urban commuter college. A program called "Women Involved in New Goals" (WING) was developed to offer a series of small group discussions and individual counseling to these women. Through WING they can develop friendships with peers, discuss their problems, gain support and information, and consider such issues as personal concerns about guilt and dependency, sex discrimination, and career development.

While ages range from 23-53, the average age is 38. Almost all the women are married and have children. Although typically they have had some previous postsecondary education, most have been out of school 15 years. They left school a) to marry and raise a family, b) because of financial need, or c) out of a lack of interest. They have paid or volunteer work experience in traditional areas.

These adult women need understanding and support with respect to the importance and difficulty of their decision; they have a history of dependency and need to develop and strengthen their capacities to assert themselves and to make decisions. Although most women experienced some degree of resistance to their return to school from husbands, family, and friends, many stressed eventual improvements in their marriage and family situations as a result of their return.

Counselors working with this clientele need to understand the nature and underlying dynamics of the problems and conflicts these women face. The women need to explore the extent to which they prevent their own success, analyze and understand the reaction of their families and explore their own guilt feelings about their children. Colleges need to be sensitive to the uncertainty and insecurity of this population. More appropriate admissions criteria and procedures are recommended. New sources and guidelines for financial aid should be developed. Child care should be available to those in need. (9 references)

20

Brindley, F. B. Social factors influencing educational aspiration of black and white girls. Dissertation Abstracts International. Ann Arbor, Mich.: University Microfilms, No. 71-1648 (HC, $10; MF, $4). 129 pp.

Educational Aspirations, Role of Others. Racial Differences. SES Differences. Girls.

The influence of parents, peers, teachers and counselors upon the level of educational aspiration of more typically middle- and lower-class adolescent black and white girls was investigated. The correlation coefficients of middle-class black and white girls differed significantly only in the correlation between the aspiration level of these girls and that of the girls used for comparison on the basis of intellectual motivation. The correlation coefficients of the lower-class girls were not significantly different on any of the self-assessment variables. Results did not support the hypotheses that girls who perceive conflicting expectations from parents and peers or father and mother especially value the expectations of a teacher or counselor in goal setting. Only the expectations of an older sibling or relative were perceived to bear a significant relationship to the goals of all four groups of girls.

(from P. E. Cromwell, (Ed.). Women and Mental Health, A Bibliography. Washington, D.C.: U. S. Government Printing Office, 1974.)

21

Broverman, I. K., Broverman, D. M., Clarkson, F. E., Rosenkrantz, P.S., and Vogel, S. R. Sex-role stereotypes and clinical judgments of mental health. Journal of Consulting and Clinical Psychology, 1970, 34 (1), 1-7.

Sex-role Perceptions. Mental Health Personnel. Sex-typed Behavior.

Sex-role stereotyping among clinical psychologists, psychiatrists, and social workers was examined. It was hypothesized that clinical judgments about the characteristics of healthy individuals would differ as a function of sex of person judged, and that these differences in clinical judgments would parallel stereotypic sex-role differences. A second hypothesis predicted that behaviors and characteristics judged healthy for an adult would resemble behaviors judged healthy for men, but differ from those judged healthy for women.

A questionnaire of 122 bipolar items was administered to a sample of 79 clinicians (46 men, 33 women), each subject receiving one of three sets of instructions: To describe a mature, healthy, socially competent (a) adult, (b) man, or (c) woman. Agreement scores on the 38 sex-role stereotypic items and male and female health scores relative to an ideal standard of health (i.e., adult, sex unspecified) were developed from questionnaire responses.

Both male and female clinicians agreed on the behaviors and attributes characterizing a mentally healthy man, woman, and adult, independent of sex. The differing conceptions of what constitutes a mentally healthy man and a mentally healthy woman paralleled sex-role stereotypes. Clinicians did tend to ascribe male-valued traits more often to healthy men than to healthy women, whereas they ascribed only about half of the female-valued traits more often to healthy women than to healthy men. The adult and masculine concepts of health did not differ significantly, but a significant difference was found between the adult and feminine health concepts. (21 references)

(from H. S. Astin, A. Parelman and A. Fisher. Sex Roles: A Research Bibliography, Washington, D.C.: U. S. Government Printing Office, 1975.)

22

Brown, M.D. Sex Differences in Factors Affecting Educational Outcomes. Unpublished qualifying paper, Harvard University, 1974, 88 pp.

Predictors of College Attendance. Sex Differences. Socioeconomic Status (SES). Academic Ability.

This paper analyses sex differences in two educational outcomes, high school expectations and actual attainment five years after high school graduation, and examines the influence background variables have on these outcomes. The data used for the analyses were collected by Project TALENT between 1960 and 1968. The sample of 3044 is a subsample of those individuals first surveyed in 1960 as ninth graders and for whom 1968 follow-up data was also available. The variables examined include general achievement, SES, family size, ninth-grade grade point average, high school curriculum, educational expectations, and educational attainment.

The author found that girls differ from boys on both educational outcomes: in high school, three-fourths as many girls as boys planned to obtain a BA degree, and by five years after high school graduation, two-thirds as many girls as boys were stil enrolled in a four-year college or had obtained their bachelor's degree. Girls also differed from boys on background variables, but these differences do not explain the differences in educational outcomes: girls had slightly lower scores on the composite achievement index but slightly higher grades, and they were slightly less likely to be in the college preparatory curriculum in high school. For high-achievement students, the college completion rates for girls were comparable with those for boys; but for low-achievement students, the rates were considerably lower for girls than they were for the boys. Variation between schools does not seem to have much effect on the educational outcomes of students. (31 references)

23

Buek, A.P., and Orleans, J.H. Sex Discrimination -
A bar to a democratic education: Overview of Title IX of the Education Amendments of 1972. Connecticut Law Review, 1973, 6 (1), 1-27.

Title IX. Sex Discrimination. Barriers to Higher Education.

This article contains a section-by-section analysis of Title IX and suggests a legal framework in which to evaluate separate or different treatment of the sexes in the activities to which Title IX applies. Title IX is intended to accomplish two goals: 1) eliminate discrimination on the basis of sex in education, and 2) make the greatest use possible of federal financial assistance in expanding educational opportunities for all Americans. However, Title IX contains exemptions and deferments which enact into law significant popular as well as judicial indecision on the issue of women's role and rights with regard to education. Title IX's success will, to some extent, depend on clarifying and resolving this indecision. Interpretative decisions under Title IX are, therefore, extremely important. The public must clearly understand that Title IX's application is consistent with congressional intent.

Three related perspectives for assessing practices which are separate or different on the basis of sex and which may be subject to Title IX are presented. This first is "quality control": Will the practice adversely affect the quality of participants or that of their comparative experiences and thus decrease the efficacy of federal support? The second perspective involves asking if, without regard to Title IX exemptions, the practice will result in present or future inequality among the participants. Where separate treatment on the basis of sex is proposed by an entity subject to Title IX, all indicia must indicate that full experiential equality is accorded those who will be affected. The third perspective necessitates asking: Does the practice allow individuals to be considered on their merits, one by one and without stereotypes? A sex-based practice within a federally assisted education program can be sustained only by compelling interest; it must be demonstrably related in some precise way to individual success in the education activity and the need for it must preclude use of alternative procedures which consider individuals equally, according to their own merits rather than stereotypically as a member of a particular sex. The authors believe that attention to the questions raised by examining a practice from these three perspectives will provide thorough and informed guidance for effectuating the goals of Title IX. (119 references)

24

Campbell, M.A. "Why Would a Girl go into Medicine?" Old Westbury, New York: The Feminist Press, 1973, 114 pp.

Women in Nontraditional Fields. Representation of Women on Faculty and Administration. Recruitment and Admissions. Student Health Services. Attitudes toward Student Mothers. Financial Aid. Athletic Facilities. Housing Services. Day Care. Affirmative Action Plans. Institutional, Overt and Subtle Discrimination.

This document examines the forms and varieties of discrimination against women in medical schools, the coping mechanisms women use to handle this discrimination and their effects on the user, the possibility of change, and discrimination against women as patients. This information was assembled to assist women in selecting and surviving in medical school education. An exploratory questionnaire composed of open-ended questions was widely but non-systematically sent to many (but probably not all) of the 107 degree-granting medical schools in the United States. Seventy-six questionnaires were returned from 146 women students at 41 medical schools. The respondents cannot be considered to be representative of all women medical students, nor of any statistically describable universe. The "case study" data were collected between February and September of 1973. As another part of the study, letters were sent out to the registrars and the admissions offices of the 107 medical schools about numbers of and attitudes toward women students with children. Sixty-six percent of the registrar sample provided the requested information, 22 percent would or could not, and 12 percent did not respond. The admissions office response was considered to be complete, since the 9 percent that did not respond were considered to have provided significant information about their attitudes. Questionnaires about attitudes and practices in the provision of medical care for women patients were mailed to the student health services of the 107 schools; there was a 74 percent response rate. Information about the status of the affirmative action plans for the 107 medical schools or their parent universities was obtained from the Public Information Officer of the Office for Civil Rights, Department of Health, Education, and Welfare.

Three forms of discrimination against women are considered: institutional, overt, and subtle discrimination. Institutional forms of discrimination considered include admissions and recruitment, financial aid, student health services - both physical and psychological, and athletic facilities. Overt discrimination is categorized as baiting, belittling, hostility, and backlashing. Subtle discrimination consists of ostracism, forgetting, spotlighting, stereotyping, and male sexual prurience. Examples of these various forms of discrimination are provided from the questionnaire responses. Coping mechanisms fall into three broad patterns of response - denial of discrimination, angry reaction, and seeking and giving constructive support to and from other women - all of which entail some costs and benefits to the user. Four ways to work for change - private negotiations, public "displays," organizing as an action group, and school endorsed committees or task-forces - are considered. Because there is a direct interrelationship between discrimination against women as medical students and as patients, discrimination against women patients is discussed.

The author concludes that because the data are not sufficiently extensive or complete, no clear differentiation can be made between the various medical schools with regard to discrimination against women medical students. She does suggest that the information collected here, particularly regarding the numbers and proportions of women students, the existence of some format for women to meet together, and the known existence of discriminatory policies and procedures, be used in clarifying the decision as to which school to attend. (33 references)

26

Center for Law and Education. Sex Discrimination. Inequality in Education, 18. Cambridge, Massachusetts: Harvard University, 1974, 67 pp.

Discrimination in Access to Elite Academic Institutions. Litigation Issues. Vocational Education. Athletics Programs. Financial Aid. Student Services. Recruiting and Admissions. Student Rules and Regulations. Housing Rules. Health Care. Textbooks. Curriculum.

This issue contains seven articles on sex discrimination in the schools at the elementary, secondary, and postsecondary levels. The underlying belief which prompted this publication is that equal educational opportunities for women are a necessary ingredient to the attainment of equal justice and opportunity for members of both sexes. The first article reviews some of the areas of sexism in education which have lent themselves to litigation challenges and suggests other areas in public schools which should be examined. The author divides sex discrimination in education into two categories: 1) the most overt forms of discrimination, such as the exclusion of women from particular schools, classes, activities or other educational benefits, and 2) the more subtle forms of discrimination, e.g., sexually biased textbooks, counselor attitudes, differential expenditures of resources on male and female students, and personnel staffing patterns. Suits that have been brought challenging the exclusion of women from elite academic schools, assignment of students to vocational education classes, and exclusion or discrimination against female students in athletic programs are reviewed and the implications discussed. One area of overt discrimination against women which has received little attention ~~against women which has received little attention~~ is distribution of scholarships and awards; without equal access to monetary benefits, female students will continue to be denied equal educational opportunities. The importance of eliminating testing materials with sexual biases, sexually biased school testbooks, and differential expenditures on the basis of students' race or sex and of developing leadership models for young women through representing women equally in important and visible decision-making decisions in the schools are stressed.

Another article discusses Title IX and considers the implications for recruiting, admissions, financial aid, student rules and regulations, housing rules, health care and insurance benefits, athletic programs, counseling, student employment, textbooks and curriculum, single-sex courses, and women's studies programs. The authors attempt to provide some insights into the scope and nature of practices which discriminate against students on the basis of sex, and the changes in these practices which might well be required for an institution to be in compliance with federal law. Overt discrimination, which specifically excludes one sex or specifies different treatment or benefits based on sex, is distinguished from discrimination which results from criteria, policies, procedures or practices which appear to be fair, but which have a disproportionate impact on one sex or the other. Although there are a number of unanswered questions concerning the specific implications of Title IX, the authors conclude there is no question that educational institutions now have a clear and strong federal mandate to eliminate sex discrimination against students, as well as employees.

Chapter 622, a Massachusetts statute which outlaws discrimination on the basis of sex in the state's public schools, is the topic of another article. The authors respond to questions asked most often about it, such as why this form of legislation was chosen and how the law is working in practice. The final article reviews judicial standards for determining sex discrimination. (4-52 references per article)

28

Centra, J.A. Women, Men, and the Doctorate. Princeton, New Jersey: Educational Testing Service, 1974, 214 pp.

Career Patterns of Women Doctorates. Sex Discrimination in Graduate School: Admissions, Financial Aid, Faculty Support.

This study attempts to describe the current status and professional development of a sample of women doctorates and to compare them to a matched sample of men. The initial random sample of 6,710 (3,473 women and 3,237 men) was selected from doctorates awarded in 1950-51, 1960, and 1968 listed in American Doctoral Dissertations. The samples of men and women were matched on field of study, institution awarding degree, and year of degree. In mid-March 1973, questionnaires which included items on employment, activities and interests, job satisfaction, reasons for unemployment, income, publications, graduate school, marriage, and views on women's rights were mailed to the 5,331 for whom addresses in the United States were available. Eighty-one percent (3,658) of the delivered questionnaires were returned. Final numbers of men and women respondents are fairly similar for each year and major field group. Chi-square tests on sex differences within five areas of study - humanities, physical sciences, biological sciences, social sciences, and education - were the principal focus of analysis. Trends over time were also investigated.

In regard to graduate school experience, the author found women did not differ from men in their retrospective views of the interest shown in them by faculty members. However, there is reason to believe women who had negative experiences with faculty were less likely to complete their doctorates. Although women were slightly more likely than men to have received a fellowship or scholarships, more men than women were teaching assistants. Sex discrimination in admission to graduate school was mentioned as a serious problem by 15 percent of the women compared to 5 percent of the men. Both sexes (23 percent of women versus 10 percent of men) perceived sex discrimination as more of a problem after admission in discouraging women from completing graduate school. On the average, women are older than men at the time they receive the doctorate.

The author concludes that women are far less likely to attend graduate school and, once having acquired the doctorate, are less likely to receive the awards which their male colleagues enjoy. (45 references)

29

Christensen, S., Melder, J., and Weisbrod, B. A. Factors Affecting College Attendance. Madison, Wisconsin: Institute for Research on Poverty, University of Wisconsin, March 1972, 17 pp.

Predictors of College Attendance. Socioeconomic Status. Sex Difference. Ability Level.

This longitudinal study examines the influence of the type of higher education facility available on the decision to attend college. In 1963, information was collected on the ability level and parental characteristics of 4,088 high school seniors in eight Wisconsin communities. Of these eight communities, three had no college facilities, one had only a two-year county college, three had extension campuses of the University of Wisconsin, and one had a four-year state college. Questionnaires were mailed to the original sample in 1967 to determine who had attended college; there was a 46 percent response to this follow-up. From the respondents a random sample of 440 was selected and income data from 1959-1965 were collected.

The authors found high school rank was an important determinant of college attendance for both males and females. The presence of a nearby college significantly affects the decision to attend college for females but not for males. The parents' income and educational level were both important factors influencing males' decision to go to college. For girls, father's income had no significant influence on the decision, but parents' educational level and father's occupation did. The authors conclude that if a male can meet the fees and admissions requirements, he is likely to attend college. For a female however, the probability that she will go to college is strongly affected by parental and community influences. (8 references)

30

Coates, T.J. and Southern, M. L. Differential educational aspiration levels of men and women undergraduate students. Journal of Psychology, 1972, 81, 125-128.

Educational Aspirations. College Students. Professional Women.

This study examines the reasons for the underrepresentation of women in academic professions, specifically psychology. Male and female college student aspiration levels and intellectual abilities were considered. Data on 198 male and 166 female undergraduates enrolled in an upper division psychology course at San Jose State College were provided by questionnaires eliciting highest degree aspirations and demographic information. In addition, three predictors of academic success were also considered: Four psychology course examinations converted into a summation score, the Concept Mastery Test of verbal facility, and the Wechsler Adult Intelligence Scale.

Findings showed that women set lower educational goals for themselves than men, despite their apparent equal intellectual capabilities for pursuing graduate education. It is concluded that not only discrimination, but also the aspiration levels of women account for their small numbers in the academic professions. (11 references)

(From H.S. Astin, A. Parelman, and A. Fisher. Sex-Roles: A Research Bibliography. Washington, D.C.: U.S. Government Printing Office, 1975.)

Coleman, J.S. et al. Equality of Educational Opportunity. Washington, D.C.: U.S. Government Printing Office, 1966, 737 pp.

Equal Educational Opportunity. Racial and Ethnic Groups. Academic Achievement. Segregation.

This volume reports the findings of a legislatively mandated investigation into the availability of equal educational opportunities for individuals of different races, color, religions, or national origins in American public educational institutions. Six racial and ethnic groups were studied: blacks, American Indians, Oriental Americans, Puerto Ricans living in the continental U.S., Mexican Americans, and whites. Four major issues were examined: 1) the extent to which the racial and ethnic groups are segregated from one another in the public schools; 2) whether the schools offer equal educational opportunities in terms of a number of criteria which are regarded as good indicators of educational quality; 3) how much the students learn as measured by their performance on standardized achievement tests; and 4) possible relationships between students' achievement and the kinds of schools they attend.

The data for the public school phase of the Educational Opportunity Survey, conducted in Fall 1965, were based on a stratified two-stage probability sample of the public schools in the country. A total of approximately 900,000 pupils enrolled in grades 1,3,6,9, and 12, about half of whom were white and half nonwhite, comprised the mail survey sample in 4,000 public schools. All teachers, principals, and district superintendents were also surveyed. Although about 30 percent of the schools selected for the survey did not participate, an analysis of the nonparticipating schools indicated that their inclusion would not have significantly altered the survey results. Statistical analyses of the data were performed.

The authors found the great majority of American children attend schools that are largely segregated; of all groups, white children are most segregated. Nationally, white children attend elementary schools with a smaller average number of pupils per room than do any of the minorities. However, in some regions the nationwide pattern is reversed. Secondary school whites have a smaller average number of pupils per room than minorities, except Indians. Nationally, minority groups have fewer of the facilities and less access to curricular and extracurricular programs that seem most related to academic achievement. Regional differences are usually greater than majority-minority differences. The average black pupil attends a school where a greater percentage of teachers appear to be somewhat less able, as measured by rough indicators of teacher quality, than those in schools attended by the average white student. Regarding the third issue being studied, it was found that with some exceptions - notably Oriental Americans - the average minority pupil scores are distinctly lower on standardized achievement tests at every level than the average white pupil. Moreover, the deficiency in achievement is progressively greater for the minority students at progressively higher grade levels. As for the fourth issue, the schools are remarkably similar in the way they relate to the achievement of their pupils when the socio-economic background of the students is taken into account. However, the achievement of minority students depends more on the schools they attend than does the achievement of the majority students. Pupil's achievement is relatively unrelated to variations in facilities and curriculums, more strongly related to quality of the teachers, and strongly related to the educational backgrounds and aspirations of other students in the school. (no references)

College Entrance Examination Board. Barriers to Higher Education. New York: Author, 1971, 151 pp.

Minority Group Students. Tests. Admissions Standards ane Policies. Finances. Special Programs. Open Admissions.

The volume contains the papers presented at the College Entrance Examination Board's Colloquium on Barriers to Higher Education which had as its purpose a critical examination of the major barriers that stand between the great majority of the blacks, chicanos, Puerto Ricans, and American Indians and equal access to higher education. The barriers examined were: the ways in which higher education is organized; tests, especially tests of scholastic aptitude; admissions standards and policies; the paucity of adequate special programs conducted by institutions of higher learning and related organizations for the purpose of facilitating the admissions and retention of minority/poverty youth; and finances.

The conference participants advocated that tests of scholastic aptitude and achievement be used for educational rather than screening purposes; that the nature of the educational experience that college provides become responsive to a much more representative group of American youth; that faculty attitudes toward minority poverty youth be changed from tolerance or hostility to humanness; that a more flexible pattern in which students proceed at their own pace be substituted for rigid, four-year graduation requirements; and that open admissions policies replace selective admissions. They also called for more truly free-access institutions strategically located; more effective compensatory and supportive programs; more relevant research on the teaching-learning process; more reliable data on the performance of "high-risk" students; and more financial access to higher education for the economically disadvantaged student. (7 major papers and 5 responding papers, 0-47 references per paper)

34

Crandall, V., Dewey, R., Katkovsky, W., and Preston, A. Parents' attitudes and behaviors and grade-school children's academic achievements. Journal of Genetic Psychology, 1964, 104, 53-66.

Elementary School Students. Academic Achievement. Parental Influence.

The relationship between parents' attitudes and behaviors and children's academic performance was investigated as part of a larger study. Subjects were 20 boys and 20 girls in the second, third, and fourth grades, and their parents. The sample was representative of all but the lowest social class. The children's intellectual abilities were assessed by the Stanford-Binet Intelligence Test, and academic performance was measured by the California Achievement Test. Parents were interviewed individually regarding general parental behaviors (affection, rejection, nurturance) and specific attitudes and reactions to their child's everyday achievement efforts.

Correlations between IQ and achievement scores were of the same magnitude generally found in research on children's intelligence and achievement. The only general parental behaviors that significantly predicted academic performance pertained to mothers and daughters: Mothers of academically competent girls were less affectionate and less nurturant toward their daughters than mothers of less proficient girls. Neither mothers' nor fathers' expressed values for their child's intellectual experiences were positively associated with the child's academic achievement. The mother's evaluation of and satisfaction with the child's general intellectual competence were positively related to the child's actual academic performance, whereas those of the father were not. Parental instigation of and participation in children's intellectual activities, when correlations were significant, were negatively associated with the children's academic performance. Fathers of the most academically proficient girls tended to praise rather than criticize their everyday intellectual achievement attempts. The greater number of significant correlations between parents' attitudes and behaviors and daughters' academic proficiency suggests that grade school boys may be less susceptible to adult influence than grade school girls. (9 references)

(from H.S. Astin, A. Parelman and A. Fisher. Sex Roles: A Research Bibliography, Washington, D.C.: U. S. Government Printing Office,.1975.)

35

Crosman, A.M., and Gustav, A. Academic Success of Older People. Psychology in the Schools, 1966, 3 (3), 256-258.

Mature Adult Undergraduates.

This article reports the findings of a study of the Spring 1962 term academic transcripts of all students (N=224 men, 233 women) 30 years of age and above attending an undergraduate liberal arts division of New York University. Men tended to be younger than women: 54 percent of the men, but only 29 percent of the women were between 30-34 years old. Men were more likely than women to be part-time, evening students (80 percent men, 59 percent women). Ninety-four percent men and 97 percent women were doing at least "C" level work. Using a Pearson product-moment correlation, a negligible relationship was found between grade average and age. Forty-six percent of the men and 35 percent of the women planned either to change occupations or to enter one for the first time.

The authors conclude the data seem to indicate older people can succeed in college, however they add that the findings cannot be extrapolated to all older people since the sample may not be a random one. (no references)

36

Cross, K.P. Women Want Equality in Higher Education. The Research Reporter, 1972, 7 (4), 5-8.

Undergraduate, Graduate, and Adult Women. Sex Discrimination.

This article discusses discrimination against women at the undergraduate and graduate level and against adult women who wish to return to school. Women are underrepresented in the college-going population, particularly in private universities and in the public community colleges. The largest reservoir of academically well-qualified young people who are not now attending college consists of bright lower-class women. Many university practices, such as housing requirements and space allocations to departments, serve to place a ceiling on the number of women students accepted. A review of the research available on academic interest, abilities, and personality characteristics indicates no important difference between men and women in their potential for academic accomplishment.

A major argument for sex discrimination against graduate women, that women are less likely than men to finish their program and that those who do are less likely to use their education productively, is presented and refuted. The barriers placed in the path of mature women who would like to return are described. The author makes recommendations for action to counteract current inequities within the educational system. (13 references)

Cross, S.L. The Second Time Around: A Survey of the Counseling Needs of Mature Women Returning to School. Unpublished Master's Thesis, University of California, Los Angeles, 1975, 111 pp.

This study examines the special problems and counseling needs of mature women who returned to school at Los Angeles City College, a large urban two-year college. Fifty women over age 25, working toward degrees, were interviewed in 1975 to gather data in the following areas: demographic characteristics; educational and employment background, status, and goals; academic performance; practical problems such as finances, transportation, child care, institutional inflexibility and inadequate counseling; attitudes of significant others; and feelings about the school experience. The sample was chosen to approximate the distribution of ages and ethnic backgrounds at LACC.

Findings indicate that the women have high educational aspirations and all of them intend to find employment after their education is completed. School is seen as a means to obtain better jobs and to find self-fulfillment. The women generally perform well academically, but some of them have difficulties due to time constraints, inadequate study habits, problems with math or English, and test-taking anxieties. Women with good grades explained characteristics and abilities that helped them to succeed in school.

Financial pressure is the greatest practical concern for these women as many are self-supporting or are heads of households. Most of the women feel that other important people are supportive of their return to school, although the time demands of school limit the energy they have for family and friends.

Tentative recommendations for the kinds of services that would benefit these mature women are offered. The conclusion gives suggestions and poses questions in the following areas: financial aid, vocational counseling, academic assistance, psychological counseling, role of a women's center, development of replicable counseling treatments, needs assessment of community women, and evaluation of support services. (67 references)

Davis, A.E. Women as a minority group in higher academics. The American Sociologist, 1969, 4 (2), 95-99.

Woman's Role. Faculty Attitudes.

This paper examines the problems encountered by women as members of an academic minority group, the relative success women experience in academic careers, and the manner in which women's educational and social capacities are used. A preliminary search of the literature on woman's role in America shows the author a picture of domesticity and child-rearing accompanied by insinuations that careers are difficult, if not ill-advised, as female pursuits. Jessie Bernard's findings on educated women, their characteristics, and the problems they encounter, published in Academic Women, are reviewed.

The field of Sociology was chosen for closer examination. Informal interviews geared toward obtaining the professor's subjective appraisal of the woman's role in sociology were conducted with five professors (four in sociology and one in anthropology). They felt that women hold a lesser or minority position in the field, that they are probably not as productive in terms of publications contributing to academic knowledge, and that they are less likely to be hired as professors in status universities. They held that women were employed in research organizations proportionately more frequently than men. Generally, the professors attributed this situation to the woman's role, which appears to prevent the pursuit of an uninterrupted career. Examining the percentage of Ph.D. candidates who succeeded in the University of California's sociology department between 1948 and 1964, there appears to be a greater mortality rate among women than men. An analysis of the number of women in the field and their employment using the 1963 Directory of the American Sociological Association found men are 20 percent more likely to be college teachers, and women are found twice as often in research, though the figure is small for both. Twenty-one percent of all women are listed without a work affiliation compared to nine percent of the men. (9 references)

39

Dickerson, K. G. Are female college students influenced by the expectations they perceive their faculty and administration have for them? Journal of National Association of Women Deans and Counselors, 1974, 37 (4), 167-172.

Faculty Attitudes. Role Expectations. Role Aspirations.

This study attempts to determine if there is a relationship between women students' academic-vocational aspirations and their perceptions of what their faculty and administration expect of them. Questionnaires were answered by a random sample of 379 female students at 4 midwestern colleges and universities. The questionnaire included 40 questions: 20 questions designed to give an indication of each student's own academic-vocational aspirations and 20 questions designed to give an indication of how the student felt the faculty and administration of her institution perceived her academic-vocational role.

While the findings do not show a cause and effect relationship, female students do perceive limited support and encouragement in academe. Regardless of the level of their own aspirations these are higher than their perceptions of what they see as the expectations of their faculty and administration of them. A sizeable percentage of female students perceive low expectation for them and are sensitive to differential treatment of the sexes. They do suggest that students with higher aspirations are more apt to feel their faculty and administration have high expectations for them. This reflects the "pygmalion" notion that one's behavior is influenced by another's expectations. Results of the study support the notion that higher education needs to adapt better to serve the needs of its women students. (11 references)

40

Drew, D. E. and Patterson, M. On the Aspirations of Women Students. Unpublished paper, 1973, 10 pp.

Undergraduate Women. Predictors of Educational Aspiration. Self-concept.

This paper examines the patterns of development of occupational and educational aspirations. In August 1967, follow-up questionnaires were mailed to 60,000 students who were initially surveyed when they entered college in the fall of 1966 by the American Council on Education's Cooperative Institutional Research Program; complete information was available for 22,079. The sample used for this study consisted of 3,293 white men and 3,509 white women. The variables included college selectivity, aptitude, initial and subsequent level of aspiration, college grades, and the student's academic ability self-concept (both initial and follow-up). The analysis technique was built around a multiple regression model.

The authors found that while the best predictor of follow-up aspiration level for both sexes was initial level of aspiration, academic ability is the second most important determinant of aspirations for women and ability self-concept is the second most important concept for men. They conclude that perhaps the salient reference group for women students is the national pool of undergraduate students, irrespective of the selectivity of the college they attend, and that, therefore, women need some sort of external sanction, such as the "objective" measure of aptitude tests, to aspire to higher levels of education. Because academic self-concept is not one of the most important predictors of educational aspirations for women and plans to marry while in college have a strong negative influence, the authors feel some measure of socialization into the traditional female role should be included in this type of analysis. They believe it is very likely that for women the self-concept they have of themselves as people and of the appropriate role for them is the best predictor of educational aspirations. (9 references)

41

Durchholz,P. and O'Connor, J. "Why Women Go Back to College." Change, 1973, 5 (8), 52+.

Adult Women Undergraduates.

This article reports the findings of a survey sent to a random sample of 245 undergraduate women 25 years or older continuing their education during the day at 2 campuses of the University of Cincinnati. The authors found 35 percent had returned to school to prepare for employment, 30 percent to fulfill a need or desire for educational achievement, 25 percent to facilitate personal growth, and 4.5 percent each to promote independence and to be intellectually stimulated. Their degree goals were: 11 percent doctorate, 37 percent master's, 35 percent bachelor's and 11 percent associate. These women were making steady progress toward their goals; they had the appropriate class standing for the number of years they had been in school and were completing their undergraduate degrees in 4-5 years. The majority (55 percent) were attending school part-time. Fifty-six percent reported their student role was very significant in their lives, 22 percent said it was moderately significant, 19 percent considered it an "interesting dimension" of their lives, and only 3 percent felt it was not really important. Seventy-two percent had definite plans to work after graduation and while 63 percent had returned to school with specific job goals in mind, 42 percent said that they did not have to work. These women had "B" averages. For 24 percent of the respondents, their return had been prompted by a crisis, such as divorce or financial problems, or by a life style change, such as children entering school or leaving home. Seventy-eight percent said their children were favorable or very favorable to their return to college and 76 percent reported their husband had a similar attitude.

The authors conclude that the problems of women returning to college may require a good deal of attention and that counselors and advisors are needed to inform them about the job market and future trends, in light of the finding that 25 percent of these women are training for the overcrowded field of elementary and secondary teaching and 28 percent are liberal arts majors, many of them with plans to earn graduate degrees and teach at the college level. The need for child care and the problem of a husband's lack of approval are highlighted as obstacles which prevent women from returning to school. (no references)

42

Entwisle, D. R., and Greenberger, E. Adolescents' views of women's work role. American Journal of Orthopsychiatry, 1972, 42 (4), 648-656.

Adolescents. Female Role. Career Attitudes.

The effects of adolescents' sex, race, IQ, social class, and residential locus on their attitudes toward women's work role were explored. The sample of 270 male and 305 female ninth graders were attending six Maryland schools described as black inner-city, white inner-city, black blue-collar, white blue-collar, white rural, and white middle-class. Subjects answered three forced-choice questions on women's role included in a large test battery. The questions, followed by indexes of how strongly the subject felt about each opinion, concerned whether women should work, what kinds of jobs they should hold, and whether they are intellectually curious.

Data indicated a marked difference between boys and girls about women's role, with boys consistently holding more conservative opinions. Both sexes disapproved of women holding "men's" jobs. Black students were less opposed to women working than were white students, but they were just as negative toward their doing the same work as men. Both black and white inner-city students were generally willing for women to work. Blue-collar girls were more conservative than inner-city girls on women's role. The greatest differences between girls' and boys' views were found among the middle-class white sample. Although subjects of high IQ generally held liberal views, high-IQ middle-class boys were least liberal. High-IQ blue-collar students of both sexes were the most liberal. These findings are discussed briefly in relation to adolescent sex-role behavior, occupational aspirations and peer pressure, education, and women's role in American society. (5 references)

(from H.S. Astin, A. Parelman and A. Fisher. Sex Roles: A Research Bibliography, Washington, D.C.: U.S. Government Printing Office, 1975.)

Epstein, C.F. Encountering the male establishment: Sex-status limits on women's careers in the professions. American Journal of Sociology, 1970, 75 (6), 965-982. Also in: Theodore, A. (Ed.) The Professional Woman. Cambridge, Mass.: Schenkman, 1970. pp. 52-73.

Professional Women. Sexual Discrimination.

This broad discussion draws on existing research and census data to examine some of the difficulties experienced by women professionals in fulfilling their career potential. Also discussed are some factors that may mitigate these difficulties. Structured professional processes, such as the colleague system, sponsor-protege relationships, social interactions within organizations, and sex typing of occupations, cause the sex status of women to equal or surpass their occupational status. The dynamics of these processes result in a cultural definition of women as holding a status inappropriate for certain occupations. The practice of female self-exclusion and the role confusions in male-female professional interaction are discussed. Interviews with successful women professionals provide information on patterns of professional life which can prevent or minimize problems faced by women.

It is concluded that a woman is more likely to have a normal career if the environment filters out responses to her sex status which intrude on her professional role, and if she has perfected techniques for handling such responses. Despite recent challenges to the traditions of the professions and the renewed movement toward job equality, it appears that more radical changes are necessary to eliminate the problems of the professional woman. (34 references)

(From H.S. Astin, A. Parelman, and A. Fisher. Sex-Roles: A Research Bibliography. Washington, D.C.: U.S. Government Printing Office, 1975.)

Feldman, S.D. Impediment or Stimulant? Marital Status and Graduate Education. American Journal of Sociology, 1973, 78 (4), 982-994.

Marital Status. Education. Role Conflict.

This study examines how the spouse role affects both men and women in graduate education. The emphasis is placed on the effects of divorce since, if one must chose between roles, abandonment of the spouse role may lessen the conflict. Data used are from a nationwide sample of graduate students and consist of approximately 33,000 completed mail questionnaires.

Findings show that in all marital statuses, women are more likely to express intellectual motives for attending graduate school than men. Married women students are under greater pressure than any other student population to drop out and, if they remain in school, they are less likely to engage in informal socialization with other students. Married men appear to be quite productive and the best-adjusted of all graduate students. The most committed and active graduate students are divorced women. It appears that divorce becomes a force for liberation for women students, while it becomes a source of strain for men. Men lose a supportive relationship, while women lose a source of severe role conflict. Those most able to adhere to a career-primacy model are married men and divorced women. (20 references)

45

Ferrin, R. I. Barriers to Universal Higher Education. Palo Alto, Ca.: Access Research Office, College Entrance Examination Board, 1970, 62 pp.

Financial Barriers. Academic Barriers. Motivational Barriers. Geographic Barriers.

This report outlines and discusses four major barriers to higher education: financial, academic, motivational, and geographic. The financial barrier has three basic components: 1) direct costs (tuition, fees, books), 2) subsistence costs (room, board, clothing, and other personal expenses), and 3) indirect costs (foregone personal income and reduced contribution to family support). The academic barrier is created by admissions requirements, entrance examinations, language tests, general education requirements, course prerequisites, and bureaucratic procedures. A motivational barrier can result from lack of parental encouragement, low educational aspirations of low-income students, and inappropriate guidance. The geographic barrier consists of two elements: physical distance and psychological distance. Because these barriers are interrelated, it is important that they be attacked simultaneously.

During the 1960s, the nation attempted to make higher education a realistic possibility for all by means of substantial federal student aid expenditures, comprehensive talent search programs, institutional revisions of admissions procedures and curriculum patterns, and the location of a multitude of low-cost institutions within population centers. However, these and other actions have been only partially successful, illustrating the magnitude and complexity of the problem rather than the failure of these provisions to come to grips with the issues at stake. (104 references)

46

Ferrin, R.I., Jonsen, R.W., and Trimble, C.M. Access to College for Mexican-Americans in the Southwest. *Higher Education Surveys*, *6*. Palo Alto, California: College Entrance Examination Board, 1972, 42pp.

Mexican-Americans. Enrollment Patterns. Recruitment and Support Practices. Barriers to Higher Education. Financial Aid.

This study's purpose was to provide information on enrollment patterns, recruitment and support practices, and barriers to higher education for Mexican-American students in the Southwest. A one-page questionnaire was sent to the financial aid director in 189 public and private colleges and universities in the Southwest; the findings are based on responses from a representative sample of 153 institutions (81% response rate).

Although about 144,000 Mexican-Americans were enrolled in Southwestern colleges in Fall 1971, an increase of at least another 100,000 would be necessary to provide a number proportional to the college-age population. Using the Fall 1971 figures, a ratio of one Mexican-American faculty member for every 100 Mexican-American students was found. The authors found that in 1970-71 Mexican-American students attending public 4-year and private colleges received financial aid that, on the average, met roughly 25% of estimated college costs. However, over 60% of Mexican-American students enrolled in public 2-year colleges where they received, on the average, $168 in aid or about 10-15% of their college costs. In these public 2-year colleges, the largest proportion of financial aid was in job aid; at the public 4-year colleges, it was in loan aid; and at private institutions, it was in grant aid.

In counties with more than 50,000 Mexican Americans, public colleges most frequently used the following recruiting devices: Mexican-American staff, Mexican-American students, and special visits to high school with high Mexican-American enrollments. Furthermore, 85% of these schools report offering Chicano studies courses, usually as an organized program. (20 references)

47

Folger, J. K., Astin, H. S., and Bayer, A. E. Human Resources and Higher Education. New York: Russell Sage Foundation, 1970, 475 pp.

Socioeconomic Status. Human Power Problems and Issues.

This book, a staff report to the Commission on Human Resources and Higher Education, contains a number of studies which examine the processes involved in developing and utilizing professional and specialized personnel. The perspective from which this issue is examined is societal rather than individual. Data is drawn from a number of sources. The first section of the report analyzes supply-and-demand trends in the arts and sciences and in seven professions. Section II concerns some of the factors that help determine how many graduates there are in each field and some of the principal means of keeping supply and demand in adjustment. Section III discusses assumptions and attitudes which disregard or conceal the special problems of women, persons from the lower socioeconomic levels, and immigrants. The final section assesses the soundness of manpower policies using several criteria: production, self-fulfillment, cost, and the attainment of national goals.

The authors conclude that the need for greater manpower planning in order to avoid imbalances among the professions and the frustration of individual career plans will become even more acute due to the rapidity of change in our society. They recommend the development of a more detailed understanding of the set of interrelated forces that determines the education and utilization of able men and women. (several 100 references in text; 31 references to publications by the Commissions staff)

48

Freeman, J. How to Discriminate Against Women Without Really Trying. Unpublished paper. Department of Political Science, University of Chicago, 1972, 21 pp.

Educational Discrimination. Educational Barriers for Women. Educational Role Expectations.

This study was conducted by the Committee on University Women at the University of Chicago to investigate the situation and opportunities presently enjoyed by women in the University community. The sample included 50 male and 50 female respondents from each of the 17 graduate divisions, undergraduate divisions and professional schools at the University of Chicago. One of the ideas the questionnaire sought to test was the "Hypothesis of the Null Environment." This hypothesis states that "an academic situation which neither encourages nor discourages students of either sex is inherently discriminatory against women because it fails to take into account the differentiating external environments from which women and men students come" (p. 3).

Findings show that women were more committed to their educational goals than the men students; more women than men said they would be very disappointed if they left school before completing their education. Only two-thirds as many female students as male students thought the male faculty were in favor of women having advanced education and fewer thought they were favorable to women having a career.

Fewer women than men can comfortably fit into the University environment. The two most obvious examples of this are lack of child care facilities and lack of female role models among professors. Students are presumed to come from and exist in a supportive external environment. In reality that external environment available to most men is much richer than that of most women; unlike women, men have been expected and encouraged to go on with their advanced education and can easily picture themselves in a professional role. Women learn to see women who achieve professionally as deviants. The author stresses the need for women to be conscious of the roadblocks they face as women at the university and the benefits of sharing their struggle with other women and thus creating the context of emotional support that every student needs for high achievement.
(9 references)

49

Freeman, J."Dissent." School Review, 1970, 79 (1), 115-8.

Women on Campus. Sex Discrimination. Attitudes Toward Women Students.

This article was written in response to the major findings and specific recommendations of the University of Chicago's Committee on University Women. The author contends that sophisticated tools for studying the issue of sex discrimination have not yet been developed and that, until they are, its cause or process cannot be examined. However, group statistics show the results of sex discrimination. The author feels that the core of the problem is the refusal of the University to take women, as a group, seriously. This attitude is reflected in the lack of courses on women, the lack of material on women in courses taught, the scarcity of faculty women and their concentration at the lower ranks and in a few fields, and sex-stereotyped put-downs made by professors. The Committee's finding that many women express satisfaction with their position should be considered in light of possible interviewer bias and failure in the interviews to relate attitudes about current situations to expectations or knowledge of viable alternatives.
The need for the University to deliberately and effectively counter general societal attitudes about women is emphasized. (1 reference)

50

Friedman, N. Sanders, L.W. and Thompson, J. Sex discrimination in CWS? The Federal College Work Study Program: A Status Report, Fiscal Year 1971. Washington, D.C.: U.S. Department of Health, Education and Welfare, 1975, 155-162.

Financial Aid. Work Study. Sex Differences. Socialization. Discrimination. College Students.

This section of a nation-wide study of the Federal Work/Study programs in colleges deals with discrimination against women in these programs. The data was collected on 10,000 students in 2,000 institutions of higher education. Evidence of sex discrimination does appear in the results. Regardless of class level, academic major, or grade average, males are twice as likely as females to hold high-level jobs. The reason women less frequently hold low-ranking jobs is that fifty-percent of the women are employed in the middle-level clerical jobs. Even when males and females are employed in similar jobs, with a few exceptions, males are paid more than females. Female students tend to be more satisfied than males with the rank and pay of their job even when it bears no relationship to their major or career plans. The socialization of adolescent females may explain this. The data suggest that sex discrimination begins even before women enter the "real" job market. The College Work/Study may be reinforcing the old norms of women's occupational alternatives. While the program may be helping to equalize educational opportunities between the sexes, it is doing little to equalize job opportunities. (no references)

51

Frieze, I.H., Fisher, J., McHugh, M.C., and Valle, V.A. Attributing the causes of success and failure: Internal and external barriers to achievement in women. Draft of paper for conference on New Directions for Research on Women, Madison, Wisconsin, May 30-June 2, 1975.

Achievement Motivation. Sex-role Stereotypes. Attributional pattern.

This paper is based on the belief that although past studies have attributed causes of women's failure to achieve to internal factors in women, external barriers to achievement are as important, if not more so, than the internal psychological barriers to achievement. Some of the internal cognitive variables which may serve to inhibit women's achievement and the external sources which may affect these cognitions are first considered. Reviewing many of the past studies, the authors find that it is not unlikely that women have lower generalized expectancies than men in our culture as a result of widely held sex-role stereotypes. Literature and theories about attribution of success and failure are discussed, with special emphasis on attributional patterns of women. Mediator variables, such as low self-esteem and fear of success, individual differences, such as androgeny and need for achievement, and situational factors, i.e., competitiveness and type of task, which appear to result in a pattern of general externality in women's attributions are examined.

Research which indicates that similar cognitive variables in others may be important external barriers to female achievement is also analyzed. Cognitions of others concerning women in achievement situations appears to be as important, if not more important, than women's internal cognitions. They can act as barriers in two ways: 1) expectations and attributions can affect hiring, promotion, and other opportunities for achievement; 2) women's internal cognitive barriers to achievement stem from cultural standards to sex appropriate behavior. (88 references)

Goldberg, P. Are women prejudiced against women? Trans-Action, 1968, 5 (5), 28-30.

Sexual Discrimination. College Women. Professional Women.

An experimental study was designed to investigate whether there is real prejudice by women against women; i.e., whether perception itself is distorted by sex discrimination. Two hypotheses were tested: That even when the work is identical, women will value the professional work of men more highly than that of women; and that this tendency will be greatly diminished or reserved when the professional field happens to be one traditionally reserved for women.

Subjects were 140 randomly selected college women, of whom 100 were used for pretesting and 40 in the experiment proper. In pretesting, the 100 subjects were given a list of 50 occupations and asked to rate the degree to which they associated the profession with men or with women. The two occupations most associated with men the two most associated with women, and two neutrals were selected. Six articles from the professional literature representing the six occupations were combined into booklets. Each article was attributed to a male author in half the booklets and to a female author in the other half. Each booklet had three male and three female authors' names. In a group session, the subjects read the articles and evaluated each one on a set of nine questions. No mention was made of the sex of the author in the instructions.

Results clearly supported the first hypothesis: Of 54 possible comparisons of male and female authors, 3 were tied, 7 favored female authors, and 44 favored male authors. The pronounced tendency for subjects to evaluate more highly articles attributed to male authors held not only for the two "male" professions, but for all six. Thus, the second hypothesis was not supported. Results showed a general bias by women against women across professions and for nine different aspects of competence as a professional. (no references)

(from H.S. Astin, A. Parelman and A. Fisher. Sex Roles: A Research Bibliography, Washington, D.C.: U.S. Government Printing Office, 1975.)

53

Holmstrom, E.I. The new pioneers: Women engineering students. Paper presented at Cornell University College of Engineering Conference. Ithaca, New York, June 23-25, 1975, ~~10 pp~~. IN Women in Engineering ••• Beyond Recruitment: Proceedings of the Conference. P. 19-27.
Women in Nontradtional Fields. Undergraduates.

This paper compares female and male engineering and non-engineering students. Characteristics, attitudes, and aspirations of the students are examined. Data used are from the American Council on Education (ACE) 1972 survey of first-time, full-time freshmen nationwide. All engineering students and a ten percent random sample of nonengineering students are compared on characteristics such as age, race, and parental education. Financial status and concerns of the students are examined. Life goals and attitudes, such as becoming a community leader and developing a meaningful philosophy of life, are considered. Finally, attitudes are compared concerning such things as legalization of marijuana and the benefits of college.

The author notes that female engineering students appear to be bright, assertive, with high aspirations and radical views. She suggests that counseling may be a less appropriate educational policy for women engineering students than providing "adult support and encouragement" and appropriate role models. (3 references)

5†

Holmstrom, E. I. and Holmstrom, R. W. The Plight of the Woman Doctoral Student. American Educational Research Journal, 1974, 11 (1), 1-17.

Graduate Students. Faculty Attitudes and Behavior. Sex Discrimination.

This article reports the findings of a study investigating the factors underlying discrimination against women doctoral students. Utilizing data from the 1969 ACE-Carnegie higher education survey, stepwise multiple regression analyses were used to identify factors related to reports of experiencing emotional strain and doubts about completion of graduate work. Analyses showed that faculty attitudes and behaviors towards women doctoral students contribute significantly to their emotional stress and self-doubts. Interaction with faculty, while related to general satisfaction with graduate school for both men and women doctoral students, revealed a bias in favor of men. Increasing the proportions of women among the faculty and a change in the attitude toward women students are recommended to remedy sex discrimination in doctoral programs. (9 references)

55

Horner, M. S. Toward an understanding of achievement-related conflicts in women. Journal of Social Issues, 1972, 28 (2), 157-175.

Achievement Motivation. Sex-role Perceptions. Stereotypes. Self-concept.

A series of achievement-motivation studies conducted over a 7-year period is reviewed in detail within the framework of an expectancy-value theory of motivation. The individual female is said to develop an expectancy that success in achievement-related situations will be followed by negative external and/or internal consequences, as a result of a widely held societal stereotype. This stereotype views competence, independence, competitiveness, and intellectual achievement as basically inconsistent with femininity, even though positively related to masculinity and mental health. It is hypothesized that a motive to avoid success is thereby aroused in otherwise achievement-motivated women and inhibits their performance and levels of aspiration.

Male and female college students, female junior high and high school students, and female administrative secretaries in a large corporation were administered the standard Thematic Apperception Test for the achievement motive, using verbal rather than pictorial cues. A verbal cue connoting a high level of accomplishment in a mixed-sex competitive achievement situation was added. A simple present-absent system was used for scoring fear of success imagery. Some subjects also responded to a questionnaire and had intensive interviews which explored the behavioral impact of the motive to avoid success. Fear of success was investigated as a function of age, sex, educational and ability levels, general positive achievement motivation, and social environment.

Fear of success was found more often among females than among males and increased with age, educational level, and ability (i.e., probability of achieving success) for the females. This fear was most often exhibited by females in mixed-sex competitive situations, rather than in noncompetitive but achievement-oriented ones. It is concluded that highly competent and otherwise achievement-motivated young women, when faced with a conflict between their feminine image and development or expression of competence, adjust their behaviors to an internalized sex-role stereotype. Impairment of the educational and interpersonal functioning of those high in fear of success was found. Some possible causative mechanisms and possible consequences of the motive for both the individual and society are discussed. (19 references)

(from H.S. Astin, A. Parelman and A. Fisher. Sex Roles: A Research Bibliography, Washington, D.C.: U.S. Government Printing Office, 1975.)

56

Hunter, K. Help women plan for the second half. Adult Leadership, 1965, 13 (10), 311+.

Adult Women. Group Counseling.

This article reports on a 10-week non-credit group counseling course called "Plan for the Second Half of Your Life" that was developed at the University of Akron. The purpose of the group was to provide guidance and information to women who wished to resume or begin a career. The speakers included important employers in the area who discussed needs, job opportunities and necessary requirements; university department representatives who talked aobut academic requirements, courses, the demands for graudates, and academic success of mature students; a panel of women who had combined career and family spoke on the pros and cons of this arrangement, and a medical physician also discussed the advantages and disadvantages of combining career and family; and a modeling school operator who talked about proper grooming and wardrobe for a career return. The course also had an extensive reading list, self-analysis was encouraged, job resume writing was taught, and conferences with employers or university department chairmen were encouraged.

There were 83 women in the group, 55 of whom had gone to college and 28 held degrees, including 3 with master's degrees. Seventy-eight of the women were married, 3 were widowed, and none were divorced. Their children's ages ranged from pre-school to married. Although family incomes ranged from $4,000-$60,000, 53 percent were between $10,000 and $20,000.

The author felt publicity was very important in reaching these women. While many of them were experiencing conflict about combining home responsibilities with even a part-time career when they began the course, many seemed to resolve this conflict during the 10-week period. (no references)

Iglitzen, L.B. A child's eye view of sex roles. In NEA's Sex Role Stereotyping in the Schools. Washington, D.C.: National Education Association, 1973. Pp 23-30.

Sex Stereotypes. Occupational Aspirations. Family Relations. Political Awareness. Elementary Students.

This paper summarizes two studies dealing with sex stereotyping among fifth grade students. The first study involving 141 boys and 149 girls sought to show the extent of sex stereotyped views of career and employment patterns, social roles in home and family and the child's view of his/her role as an adult. Children were asked to sort a list of job and personality traits into those "for men", those "for women" and those "for men and women." Boys and girls demonstrated sex stereotyping. Although girls were less inclined to reverse traditional sex-tied jobs than boys, girls were more willing to see jobs open to either sex. Children of both sexes tended to see personality traits as distinctly masculine or feminine, though they did not always agree on which sex should be linked with a particular trait. Overall, girls had varied career aspirations, though these were heavily weighted toward traditional female occupations. Only 6 percent said they would be simply a mother or housewife. However, when asked to describe how they would spend a typical day in their future, girls showed a marked discrepancy between their stated career goals and their actual day. Girls emphasized marriage and family much more than boys did. Boys focused more on details of job and career. This data indicated that children with working mothers - especially girls - had more liberal views on roles of men and women in society.

In a second study of 80 boys and 67 girls in the fifth grade an expanded questionnaire was administered to see if sex stereotyping found in the first study was replicated and to see what effect, if any, these views had on children's political attitudes and beliefs. When boys and girls were asked to choose any possible political job the same small number of boys and girls chose to be President. A sizeable number of boys chose mayor, not one girl did. For girls a popular choice was school board head or judge. But whether these choices were made as realistic options or on the basis of stereotypes is indeterminate. On a composite index of political information and awareness girls did more poorly than boys. Other sex differences were in line with the previous study. While stereotyping clearly exists, the data did not show any strong relationship between it and political awareness.
(no references)

58

Institute for the Study of Educational Policy. Summary of Equal Educational Opportunity for Blacks in United States Higher Education: An Assessment, Report No. 1, the 1973-74 Academic Year. Washington, D.C.: Howard University, 1975, 22 pp.

Black Undergraduate and Graduate Students. Financial Aid. Access, Distribution, and Persistence. Racial Discrimination.

This report, covering the 1973-74 academic year, assesses the equality of educational opportunity for blacks in U.S. higher education. It reviews the recent status of blacks in higher education, the economic returns of education for blacks, the continuing barriers to equal educational opportunity, and the problems of the racial data by which public policy is sometimes determined. The necessary conditions upon which equal educational opportunity depends are access, the opportunity to enroll in college; distribution, the type of institution attended and the field of study; and persistence, the opportunity to remain in college and complete training in a timely fashion.

Blacks are underrepresented in the college population and those who were enrolled in higher education in 1973 were distributed unevenly throughout the hierarchy of institutions, with a concentration in the lower cost, less selective institutions without major graduate or research programs. Blacks tend to enter education rather than other fields of study, and this tendancy increases at the baccalaureate and doctoral levels. Based on the limited data available, it appears that blacks and whites dropped out of college at about equal rates in 1973. On the average, blacks take longer than whites to complete college. Barriers to equal educational opportunity are defined as categorical, obstacles which arise from racial discrimination; educational barriers which result from neutral institutional policies and practices that have adverse racial impacts; and psychosocial, obstacles which develop from the lifestyles and values of students and faculty. Completing four or more years of college education produced significant gains in average black income and lifetime earnings. Financial aid patterns of blacks are described and contrasted to those of whites. The need for federal responsibility to facilitate access, distribution, and persistence of talented and able minorities in graduate and professional schools by removing financial barriers is stressed. (no references)

59

Jencks, C. et al. Inequality: A Reassessment of the Effect of Family and Schooling in America. New York: Basic Books, 1972, 399 pp.

Socioeconomic Status. Educational inequality.

This book challenges the belief that equalizing opportunity, especially educational opportunity, will produce more social mobility and more adult equality. The study draws upon a wide range of major surveys conducted since 1960, including Census Bureau studies of social mobility and income distribution, Project TALENT'S surveys of American high schools, and the Equality of Educational Opportunity Survey. The effects of family background, years of schooling, and IQ scores on adult success as well as the effects of expenditure differences in American schools, racial and economic desegregation, and tracking are examined.

Regarding educational opportunities, the data indicate that resources are unequally distributed, that some people have more chances than others to attend school with the kind of schoolmates they prefer, and that some people are denied access to the curriculums of their choice. Jencks and his associates found: 1) educational reform cannot bring about economic or social equality; 2) genes and IQ scores have relatively little effect on economic success; and 3) school quality has little effect on achievement or on economic success. They conclude that even if the schools could be reformed to insure that every child received an equally good education, adult society would hardly be more equal than it is now. To achieve equality in America, far more fundamental social and economic changes than school reforms must be undertaken. (411 references)

60

Lunneborg, P.W., and Lillie, C. Sexism in graduate admissions. American Psychologist, 1973 (Feb.), 187-189.

Sex-Role Stereotypes. Letters of Recommendation. Graduate Admissions. Attrition.

This study examines the possible correlation between sexist descriptions in letters of recommendation and attrition in graduate school. Letters of recommendation for 123 graduate students (31 percent female) admitted to the University of Washington from 1963-1967 were judged for sexist comments. Two kinds of comments were considered to be sexist: those implying a lower degree of expectation for women and those dealing with feminine physical traits irrelevant to graduate study. The authors found 12 sexist comments, 11 of them written in reference to female applicants and "undoubtedly intended as praise." The authors raise questions regarding the professional legitimacy of using such comments in describing prospective graduate students, and the effects these judgements have on the behavior of students, faculty and administrators. The authors suggest that one means of reversing high rates of female attrition may be eliminating sex stereotyped expectations which are perpetuated by letters of recommendation. (4 references)

61

Maccoby, E.E. and Jacklin, C.N. The Psychology of Sex Differences. Stanford, CA: Stanford University Press, 1974. 627 pp.

Socialization. Sex-Typing. Role Modeling. Social Behavior. Temperament. Intellect. Achievement. Self-Concept.

This comprehensive review of reported research findings systematically analyzes and interprets the data on sex differences in the areas of perception, learning, memory, intellectual ability, congitive style, achievement motivation, self-concept, temperament, social approach-avoidance, power relationships, sex-typing, role modeling and socialization. The summary text is supported by an annotated bibliography of over 1400 research studies. In the conclusion the authors assess the validity of the most widely held beliefs about sex differences, propose a framework of similarities and differences between the sexes, and examine the social implications of their findings.

The unfounded beliefs about sex differences are that girls are more "social" and more "suggestible" than boys, that girls have lower self-esteems, that girls are better at rote learning and simple repetitive tasks and boys at tasks requiring higher level cognitive processing and inhibition of previously learned responses, that boys are more "analytic," that girls are more affected by heredity, boys by environment, that girls lack achievement motivation, that girls are auditory, boys visual. However, girls do rate themselves higher in social competence. Boys often see themselves as strong, powerful, dominant and "potent." During college (but not earlier or later) men have greater sense of control over their own fate and greater confidence in their probable performance on a variety of school related tasks. Boys' achievement motivation appears to be more responsive to competitive arousal than is girls', but this does not imply a generally higher level.

Some sex differences are fairly well-established. Girls have greater verbal ability than boys early in life and then after age 10. Boys excel in visual-spatial ability especially in adolescence and adulthood. Boys excel in mathematical ability especially after age 12. Males are more aggressive. Sex differences in tactile sensitivity, fear, timidity and anxiety, activity, competitiveness, dominance, compliance and nurturance are still open questions. Three kinds of factors have been discussed as affecting the development of sex differences: biological factors, "shaping" of boy-like and girl-like behavior by parents and other socializing agents, and the child's spontaneous learning of behavior appropriate for his/her sex through imitation. Social implications of these findings for schooling, dominance and leadership, vocational success, childbearing and rearing, and influence of heredity are discussed. (1400+ references)

62

Maccoby, E.E. and Jacklin, C.N. Achievement motivation and self-concept in The Psychology of Sex Differences. Stanford, CA: Stanford University Press, 1974. Pp. 134-163.

Achievement Motivation. Task versus Social Orientation. Self-Concept.

This chapter reviews current literature which supports or refutes six common hypotheses concerning differences between sexes in their motivations to achieve: (1) males have greater need for achievement and are more oriented to achievement for its own sake; (2) males have greater task involvement and persistence; (3) males have more curiosity and exhibit more exploratory behavior; (4) females are primarily motivated to achieve in the area of interpersonal relations whereas males are motivated to achieve in non-personal oriented areas including intellectual achievement; (5) females are motivated by the desire to please others, to gain praise and approval, and males are motivated by intrinsic interest of the task; (6) females have low self-confidence, a general lack of self-esteem.

The sexes are quite similar with respect to those aspects of achievement motivation for which evidence is available. They show similar degrees of task persistence. There is no evidence that one sex works more than the other because of intrinsic interest in the task rather than praise and approval. There is some evidence that boys' achievement motivation needs to be sustained or stimulated by competitive, ego-challenging conditions but girls throughout the school years seem to maintain their achievement motivation without such stimulation. In fact, at certain ages females may be motivated to avoid competition ("avoid success"). On most measures of self-esteem females show at least as much satisfaction with themselves as do males. During college some sex differentiation occurs. At this time women are less confident than men in their ability to perform well on a variety of tasks; have less sense of being able to control events that affect them and tend to define themselves more in social terms. But girls maintain a high level of achievement as evidenced by good grades whether they have a sense of personal potency or not.

What accounts for lack of non-domestic achievement by women during post-school years is still open to speculation. Achievement motivation differences may appear in post-college years. The traditional expectation for women may channel her energies into domestic duties. Many of the training opportunities which lead to high level achievement have until recently been closed to women.

63

Maccoby, E.E. and Jacklin, C.N. Differential socialization of boys and girls in The Psychology of Sex Differences. Stanford, CA: Stanford University Press, 1974. Pp 303-348.

Socialization. Parent-Child Relations. Dependency. Aggression. Sex-Typed Behavior and Perceptions. Sexuality. Achievement.

This chapter reviews the issue of differential socialization of boys and girls. Contrary to common belief the data reveals a remarkable degree of uniformity in the socialization of the two sexes. There does not emerge any clear trend that sons and daughters experience different amounts of parental warmth, or reinforcement of dependent or aggression behaviors. There is no consistent proof that mothers provide more verbal stimulation to daughters than sons. In general there is no positive evidence that parents engage in specific sexual socialization to prepare their children differentially for the adult "double standard." Girls are not reinforced more for modesty or punished more for sexual exploration. There are indications that parents are trying to socialize children of both sexes toward the same major goals but believe they are starting from different points with each sex because they have a different set of "natural" assets and liabilities.

There is evidence that parents encourage their children to develop sex-typed interests, providing them with sex-typed toys. More strongly, they discourage them, particularly sons, from inappropriate sex-typed behaviors and activities. During preschool years there seems to be a trend toward somewhat greater restrictiveness of boys. Boys receive more punishment but also probably more praise and encouragement. Adults respond as if they find boys more interesting, or more attention provoking than girls. Boys seem to have a more intense socialization experience than girls. The different amounts of socialization pressures will surely have consequences for the development of their personalities.

Maccoby, E.E. and Jacklin, C.N. Sex-typing and the role of modeling in The Psychology of Sex Differences. Stanford, CA: Stanford University Press, 1974. Pp. 277-302.

Sex-Typed Preferences. Modeling. Parent-Child Relationship. Same-Sex Model.

This chapter represents a review of the literature that covers the current beliefs about the development of sex-typed behaviors and the role of modeling. Sex-typed behavior refers to "role behavior appropriate to a child's ascribed gender." In general, sex-typing deals with the establishment of a pattern of interests and activities by a child which are "feminine" or "masculine." There is considerable evidence showing that at nursery school age both sexes are sex-typed and starting at about four boys become increasingly more sex-typed than girls, more likely to avoid sex-inappropriate activities and accept (prefer) activities associated with their own sex.

Many sources emphasize the importance of the role of imitation and identification in the acquisition of sex-typed behavior. The fact that observational learning occurs and that children learn many items in their behavioral repertoire through imitation of their parents is clear.

However, there does not seem to be a consistent tendency for children or adolescents to resemble the same sex parent more than the opposite sex parent. Furthermore, when children are given a choice of models they do not consistently select same-sex models. The question is where do sex-typed behaviors come from.

The discrepancy between acquisition and performance is involved. A person comes to know (cognitive development) that certain actions are appropriate for persons of his/her sex and others are not. The modeling process is crucial in the acquisition of a wide repertoire of potential behaviors but this repertoire is not sex-typed to any important degree. Knowing what behavior is sex-appropriate is crucial in the selection of what items of the repetoire. will be used in performance. The sex-typing of behavior and choices for performance have been alternately explained as the result of either reinforcement experienced and observed or growing understanding of one's own sexual identity and the content of that sex role as prescribed by the culture around him/her.

65

McBee, M.L. and Suddick, D.E. Differential freshman admission by sex. Journal of the National Association for Women Deans, Administrators, and Counselors, 1974, 37 (2), 75-77.

Admissions. Differential Admissions Criteria by Sex Quota Systems.

This study attempts to determine whether, after adjusting for initial differences in high school averages and Scholastic Aptitude Test (SAT) scores via separate regression equations, the differential admissions criterion by sex used until recently by a large Southeastern public institution of higher education was justifiable. Three hypotheses are tested: 1) A systematic difference exists between forecasting the actual first quarter grade averages from those predicted for males and females, 2) Males mature later than females, and 3) Females have higher predicted first quarter grade averages than males. Predicted and actual first quarter grade averages for 1,096 male and 937 female native freshman resident matriculants in 1969 and the three-quarter cumulative grade averages of 979 of the men and 853 of the women were used to test the hypotheses. Regression analyses were employed.

After initial differences in pre-admission credentials of men and women were adjusted via separate regression equations, no difference was found in the regression of predicted averages on actual grade averages during the first year of college. The use of differing cut-off scores seems unwarranted. (1 reference)

66

Mischel, W. Sex-typing and socialization. In P.H. Mussen (Ed.) Carmichael's Manual of Child Psychology, (Vol. 2), New York: John Wiley and Sons Inc., 1970. Pp. 3-72.

Socialization. Personality. Behavioral Systems. Sex-Role Stereotypes.

This chapter introduces the area of socialization and raises some of the related fundamental points and problems of personality research. Simultaneously, it tries to illustrate the range and meaning of psychological sex differences in social behavior and the development of these differences. While biological antecedents and physical characteriestics play a role in the development of psychological characteristics, this treatise concentrates on socialization and, hence, on the social and psychological determinants of sex differences in a social context. Main psychological differences between the sexes based on directly observed differences in the frequency with which the sexes display particular behavior patterns are summarized. Sex-role stereotypes are also discussed. Dispositional or the trait approach to personality is used in an attempt to identify broad trait dimensions, such as, masculinity-femininity dimension. Various explanations for the acquisition and performance of sex-typed behaviors are presented. (312 references)

67

Mulligan, K. L. A Question of Opportunity: Women and Continuing Education. ED 081 323, 1973, 33pp.

Adult Women. Continuing Education Programs. Role of the Federal Government.

This publication explains why specialized programs for women are necessary, reports the findings of a survey of program directors of 376 programs listed in the Department of Labor Women's Bureau 1971 publication Continuing Education Programs and Services for Women, and presents an analysis of Federal responses to the need for continuing education programs for women. Specialized programs for women are needed in order to assist women who work to increase their productivity, minimize the risk of discrimination, and provide society with more fully realized talent; to help women overcome the obstacles to graduate study; and to remedy the past inability of counselors to respond to the vocational needs of women.

Of the 376 programs surveyed, 190 responses were received. Sixty-one of the respondents indicated that they provided no special programs to accommodate the needs of mature women, 9 programs had been terminated, and 8 offered only one vocational course in an area traditionally regarded as a women's field. Of the 112 programs serving the educational needs of mature women, only 36 had program directors who devoted more than half their time to these programs. The great majority of programs and services were self-supporting. The directors were especially concerned with the need for financial assistance to part-time students. Common themes which recurred in the director's responses were the development of university-community relationships, the client-orientation of the programs, and the motivation to learn that adult women display.

The author concludes that Federal responses to the need of women for university level continuing education have been minimal, although resources are available which could be used to expand existing programs, develop more supportive services, and to provide a necessary research base. Specific recommendations are given concerning the ways in which the Federal government could more substantively aid in providing services to adult women students and suggestions are cited to assist universities in identifying issues and problems relevant to their capacity to serve the needs of women. (no references)

68

Project on the Status and Education of Women. Health Services for Women: What Should the University Provide? Washington, D.C.: Association of American Colleges, 1972, 11 pp.

Campus Health Services. College Women.

This paper provides information on the issues involved in providing health care to women on campus and on some of the current activities in the area. The major changes or additions that women are seeking for college and university health service programs are outlined. Basically, women would like to see the provision of adequate medical care, including sex-related health needs, to women students linked with the provision of sex education and counseling programs. Various kinds of action being taken by institutions to develop or revise health care programs designed to meet women's needs are discussed. The American College Health Association's Resolution on the issue is included. (9 references)

Project on the Status and Education of Women. What Constitutes Equality for Women in Sports? Washington, D.C.: Association of American Colleges, 1974, 21pp.

College Women. Discrimination in Athletics. Sex-Stereotypes.

This paper outlines some of the issues related to equal opportunity for women in sports, gives examples of some situations that may have to be reconsidered, and discusses some of the alternatives that are being proposed. Athletics reflect cultural norms and, therefore have tended to perpetuate sex stereotypes and myths about what is "right" for the respective sexes. It is important to consider the attitudes that people have about women in sports because they influence the total athletic opportunities that are available to women.

Federal law mandates equal athletic opportunity regardless of sex and the implications and application of this legislation are considered. What constitutes equality in non-competitive and competitive athletic programs is discussed. The issue of single-sex versus mixed teams is considered. Issues such as funding for competitive athletics; "separate-but-equal" administrative structures in athletic and physical education departments, and governing associations; and what constitutes equality for women employees in sports are taken up.

Although there is no simple explanation as to what constitutes equality for women in sports, a widespread mandate for constructive change exists. The author feels equity demands that women be given a "sporting chance". Resources are listed. (18 references)

70

Resources Analysis Branch, Office of Program Planning and Evaluation, National Institutes of Health, U.S. Department of Health, Education, and Welfare. Special Report on Women and Graduate Study. Resources for Medical Research Report No. 13, 1968, 94 pp.

Graduate Education. Educational Barriers. Educational Facilitators. Bio-Medical Sciences.

This is an examination of the obstacles women encounter in pursuing graduate study, especially in the field of health, and the factors that might encourage more talented women to complete advanced training. Of the 131,200 women who earned bachelor's degrees in 1961, 72 percent planned to attend graduate school and 42 percent had enrolled by 1964. Of the women planning medical careers in 1964, all had planned as early as 1961 to do graduate work, and 93 percent had actually enrolled. Of the women in scientific fields in 1964, 80 percent had anticipated graduate study three years earlier, and 65 percent had enrolled.

The major obstacles to graduate study reported by these women were financial (42 percent), family responsibilities (41 percent), lack of available graduate school (16 percent), lack of qualifications (13 percent), and disapproval of husband (3 percent). These women cited several factors that would facilitate the entry of more women into scientific and medical fields: greater availability of part-time training and employment, establishment of child care centers or allowances, increase in training stipends, and greater recognition of women successful in these fields. To facilitate entry of more women into the biomedical sciences, the National Institutes of Health should seek to dispel the "inferiority myth" concerning women by instituting action programs aimed at young girls and their parents, educators, and counselors.
The report summarizes the results of a longitudinal study of 1961 college graduates conducted by the National Opinion Research Center. Follow-up surveys were conducted in 1962, 1963, and 1964. Questionnaires were used to gather the data.

(from H.S. Astin, N. Suniewick, and S. Dweck. Women: A Bibliography on their Education and Careers. Washington, D.C.: Behavioral Publications, 1974)

71

Robinson, J., Paul, S., and Smith, G. Project Second Start. New York: John Hay Whitney Foundation, 1973, 308 pp.

Adult Women Students. Special Adult Programs. Low-income Women.

Project Second Start is an in-depth study of three programs at Brooklyn College of the City University of New York which have tried to serve the needs of adult women, including low-income women. The study's aim was to determine how these programs were attempting to meet the needs of low- and no-income women. This exploratory study of a selected group involved open-ended interviews with 46 women currently in a program; interviews with administrators, counselors, teachers, and secretaries; and telephone interviews with 14 women who had either dropped out of or applied to or inquired into a program.

Following a description of the three special adult programs, the study group is described in terms of demographic data, paid and unpaid work experience, previous education, child care, major reasons for going to college, and field of study. Their experience in the programs in the areas of admissions, cost, curriculum and classroom, counseling, credit for life experience, and other program features is described. The areas of stress involved in handling multiple responsibilities - family, job, and school - and the ways in which these women are handling these problems and concerns, as well as the ways in which their lives have changed as a result of this experience are discussed. Recommendations for programs geared to women's needs are presented. (25 references)

72

Roby, P. Institutional barriers to women students in higher education. In: Rossi, A.S., and Calderwood, A. (Eds.) *Academic Women on the Move*. New York: Russell Sage Foundation, 1973, 37-56.

Sex Discrimination. Institutional Barriers to Higher Education. Sex-Role Expectations. Undergraduates. Graduate Students.

Despite the boom in higher education over the past 50 years, in relative terms, women have lost ground in academe; they continue to be under-represented in higher education. The author investigates institutional or structural barriers to women's entry and to their ability to persist in higher education. Institutional barriers are defined as "policies and practices in higher education which hinder women in their efforts to obtain advanced education" (p. 38) and are discussed as they pertain to admissions; financial aid; student counseling, including the attitudes of faculty toward women students; student services, particularly health services and day care; degree requirements and a curriculum which usually emphasizes the culture and achievement of white males. The author points out discriminatory practices where they exist and proposes some corrective action to remedy the situation. (26 references)

73

Rosenkrantz, P., Vogel, S., Bee, H., Broverman, D. M., and Broverman, I. Sex-role stereotypes and self-concepts in college students. Journal of Consulting and Clinical Psychology, 1968, 32 (3), 287-295.

College Students. Sex-role Perceptions. Stereotypes. Self-concept.

A questionnaire administered to college students probed the extent to which sex-role stereotypes, with their associated social values, influence the self-concepts of men and women. The 74 male and 80 female students were asked to characterize the behaviors, attitudes, and personality traits of typical adult males, adult females, and themselves, by means of 122 bipolar items.

In contrast to expected results, self-concepts did not differ from stereotypic concepts of masculinity and femininity as a function of the social desirability of the stereotype. Results indicated strong agreement between sexes about differences between men and women, corresponding differences between the self-concepts of the sexes, and more frequent high valuation of stereotypically masculine characteristics by both sexes. Women seemed to hold negative values of their worth relative to men, indicating the influence of the factors that create this sex stereotyped self-concept. A cultural lag may account for the persistence of sex-role stereotypes despite contemporary changes in the prescribed sex-role behavior in this society. It is also noted that older or married subjects or subjects of other educational and social class levels might produce different patterns of responses. (25 references)

(from H. S. Astin, A. Parelman and A. Fisher. Sex Roles: A Research Bibliography, Washington, D.C.: U.S. Government Printing Office, 1975.)

74

Rubin, R. A. Sex Discrimination in interscholastic high school athletics. Syracuse Law Review, 1974, 25 (2), 534-574.

Interscholastic Athletics. High School Students. Athletic Scholarships.

This article examines sex discrimination in high school athletics, legal action that has been brought to combat it, and future prospects. Key elements of each decision in the cases in which women have asserted the right to participate in interscholastic high school athletics, in both contact and noncontact sports, are identified. Those key elements which are common to all of the decisions, such as enumeration of the physical differences between the sexes, arguments concerning the psychological effects of mixed sex teams, the importance attached to the existence of a separate program for women, the greater success of individual as opposed to class action suits, and the tendency of the court to overlook relevant considerations, e.g., the educational and economic benefits that can accrue from athletic excellence, are examined. A female athlete who brings an individual or class action to compel mixed competition in a noncontact sport will have the greatest chance of success if the school has no separate program for women in that sport.

The author points out that until women have access to the same facilities, coaching, and competition on the high school level as men now do, they will continue to be disadvantaged in obtaining athletic scholarships to attend college. Furthermore, if the female athlete's opportunities in high school are scarce and of poor quality, the advantages of college participation (the chance to refine, display, and ultimately sell the athletic talent for a livelihood) will never materialize.

Various alternative systems which might mitigate the discriminatory impact of current athletic programs are described and appraised. Of these models, only "separate and mixed" is acceptable. The proposed equal rights amendment might render this model constitutionally impermissible, however. Pending federal regulations for the effectuation of the 1972 Educational Amendments would encourage inadequate programs. The author believes that if either proposal becomes operative, equal opportuntiy for the female athlete would be limited if not virtually eliminated. (100 references)

75

Schlossberg, N. K. and Goodman, J. A woman's place: Children's sex stereotyping of occupations. Vocational Guidance Quarterly, 1972a, 20 (4), 266-270.

Sex-role Stereotypes. Occupational Aspirations. Elementary School Children.

Studies of sex difference in socialization and child rearing practices were reviewed in this article, and an empirical study designed to explore occupational stereotyping by elementary school children was presented. Boys and girls in the kindergartens and sixth grades of two schools were asked to respond to 12 drawings representing the work settings of 6 traditionally-male occupations and 6 traditionally-female occupations. The data were analyzed in terms of number of stereotyped responses and indicated that: (a) the 6th graders at the model cities school held more stereotypes than those at the middle income school; (b) the children were more apt to exclude women from men's jobs than to exclude men from women's jobs; (c) the children chose jobs for themselves that fell within the usual stereotypes; and (d) there was no significant difference between the role stereotypes held by kindergartners and 6th graders. These findings imply the need for elementary school personnel to change children's notions of differential achievement for men and women, and to develop and maintain increased options for both boys and girls. (7 references)

(from A. Phelps, H. Farmer, and T. Backer. Selected Annotated Bibliography on Women at Work. New York: Human Science Press, in press. 1976.)

76

Schwartz, P., and Lever, J. Women in the Male World of Higher Education.
In: Rossi, A.S., and Calderwood, A.,(Eds.) Academic Women on the Move.
New York: Russell Sage Foundation, 1973, 57-77.

Socialization. Institutional Barriers. Faculty Attitudes. Women Undergraduates.

This chapter describes the ways in which psychological and structural disadvantages interact to shape the unique pattern of obstacles that women face in the male world of higher education. Female socialization often results in self-doubt, conflicting motivation, and anxiety about social success and directly influences women's college experience and career plans. Stereotypes about the female intellect affect both women and those who interact with them.

Interview data gathered from a stratified random sample of 50 men and 50 women, drawn equally from the 4 class years and from the 12 colleges at Yale College, and collected during the first academic year (1969-1970) of undergraduate coeducation is reviewed. Because Yale epitomizes the "male world of higher education", the authors believe a case study of male-female interaction and role relationships on that campus will illuminate the difficulties a woman confronts in developing a positive self-image as a scholar. The chapter discusses and cites examples of long-term effects of socialization, the implications of women's preference for male professors and the male monopoly of leadership positions, the career/marriage conflict, the assumptions and expectations that faculty and other members of the university community reserve for women students, the insularity and lower academic quality of women's colleges, inadequate provision of needed services or differential treatment by sex, and conflict over postgraduate training that women often experience. The authors stress the need for women to depend on their own resources and to form alliances with other women to combat the psychological and institutional barriers to their intellect and potential for achievement. (15 references)

Sewell, W.H., and Hauser, R.M. Education, Occupation, and Earnings: Achievement in the Early Career. New York: Academic Press, 1975, 237 pp.

Socioeconomic status.

This book presents analyses of the influence of social origins on educational attainment, occupational achievement, and earnings. The research is based on data collected from a large probability sample of 1957 Wisconsin high school seniors and a follow-up of the men through their first ten years of postsecondary schooling, military service, and labor force experience. The authors have developed a recursive structural equation model that attempts to elaborate and explain the effects of socioeconomic origins (i.e., mother's education, father's education and occupation, and parents income) and academic ability on educational, occupational, and earnings achievements. The model postulates that socioeconomic background affects measured mental ability; that background and ability affect the level of postsecondary schooling achieved; that background, ability, and schooling affect the socioeconomic status of one's job; and that all the foregoing variables affect one's earnings. The mediating effects of social psychological variables, such as academic performance in high school, the influence of significant others, and educational and occupational aspirations, are also investigated. The influence of the type and quality of college attended on occupational attainment and earnings and the effects of military service and ability on earnings are examined.

The authors found the process of achievement to be factorially complex and subject to important components of luck or chance; nonetheless, important effects of socioeconomic origins on achievements in school and in the labor market which are not fully compatible with expressed national goals of equal opportunity were found. Except in the case of earnings (which are only affected by parents' income), every measure of socioeconomic background affects each measure of son's achievement. Although the social psychological variables increased substantially the explained variance in schooling, they were of less direct importance in explaining occupational status and earnings. (193 references)

Sewell, W. H., and Shah, V. P. Socioeconomic Status, Intelligence, and the Attainment of Higher Education. Sociology of Education, 1967, 40 (1), 1-23.

Predictors of College Attendance. Socioeconomic Status (SES). Sex Differences.

This study examines the effects of socioeconomic status (SES) and intelligence on college plans, college attendance, and college graduation. Data were obtained from questionnaires administered to all Wisconsin high school seniors in 1957 and from follow-up questionnaires mailed to approximately one-third of these students in 1964-65. The follow-ups had an 87 percent (9,007) response rate. The variables include sex, SES, intelligence, college plans, attendance, and graduation, and educational attainment. Data were examined using cross-tabular analysis, effect parameters, and path analysis.

For all women, SES was a more significant factor than intelligence in college plans, attendance, and graduation; the converse held true for men. For those who attended college, intelligence tended to be more important than SES in determining who graduated, although SES still exerted some influence. The authors note that although intelligence plays an important role in determining which students will be selected for higher education, SES never ceases to be an important factor in determining who shall be eliminated from the contest for higher education in this sample. (22 references)

Solmon, L. C. Men and Women Graduate Students: The Question of Equal Opportunity. Los Angeles: Higher Education Research Institute, Inc. and University of California, Los Angeles, 1975, 194 pp.*

Graduate Students. Sex Discrimination. Financial Aid. Admissions. Time Spent in Graduate Study. Geographic and Interinstitutional Mobility.

This study was undertaken to help reach a consensus on a proper and operational definition of sex discrimination in graduate school, to attempt to document sex discrimination quantitatively rather than anecdotally, and to see whether differential treatment exists and, if so, whether it is the fault of institutions or of earlier conditioning of both sexes by society. The monograph, which includes a review of earlier discussions of sex discrimination in the graduate schools, attempts to document and explain differences by sex in the admissions process, time spent in graduate study, geographic and interinstitutional mobility, and financial aid practices. For the study of admissions and financial aid practices, a survey of the deans of 240 doctoral-granting insitutions was conducted; 85 usable responses, representative of the total population, were obtained. For the study of time spent in graduate study, data from the National Research Council's (NRC) doctorate records file on 1972 doctoral recipients was used, supplemented by a Cooperative Institutional Research Program (CIRP) survey questionnaire which inquired about fall plans for graduate school in late summer 1972 and National Center for Educational Statistics (NCES) statistics on first time enrollment in the fall of 1972. Data on geographic mobility were obtained from the National Institutes of Health on NIH fellowship winners and from NCES on all graduate students. Interinstitutional mobility data came from NRC on 1972 doctoral recipients. The financial aid section included data from El-Khawas and Bisconti's 1971 follow-up survey of 1961 and 1966 college freshmen who subsequently attended graduate school and from a National Science Foundation 1972 survey of graduate science student support. Frequencies and regression analyses were the principal forms of statistical analyses.

The author found the ratio of graduate school acceptances to applications was slightly greater for women than for men. Despite real or imaginary barriers, women do not spend significantly more time in school to obtain their doctorates. Looking at groups of graduate students who haven't yet received their doctorate, it appears that 1) the best women students select institutions in fewer geographic locations than men do, and 2) more men than women attend school out of state. Regarding the interinstitutional mobility of successful doctoral students, it was found that being married appears to stabilize women. Financial problems seem to restrict the geographic mobility but to increase the interinstitutional mobility of women students. The share of financial aid awards to each sex, as a proportion of applicants, is at least equal, with the successful application rate of women slightly higher than that of men. There are differences by field: women receive a disproportionately large number of financial aid awards compared with their enrollment in the physical sciences, mathematics, and engineering, and fewer awards given enrollment, in the life and social sciences. Although overall women receive proportionately less financial aid than men, much of this appears to be due to the concentration of women in fields where the amount of financial aid available is small. Women consistently receive fewer research assistantships and a larger amount of teaching assistantships and other service awards. Since women are less likely to take out large loans and men have greater access to the G.I. bill, equal distribution of other student aid will not result in equal ability to finance their education. (76 references)

*This volume is now is press (Praeger) and will be published in 1976 under the title Male and Female Graduate Students: The Question of Equal Opportunity.

81

Steele, M. Women in Vocational Education. Flagstaff, Arizona: Project Baseline Supplemental Report, Northern Arizona University, 1974, 145 pp.

Vocational-Technical Education. Socialization. Secondary, Postsecondary, and Adult Education.

This report reviews the current status of women in vocational education to determine if there is a cause-effect relationship between school practices and limited job options for women in the world of work. Present inequities for women in employment, in pay and in promotion are described as are current programs, enrollments, expenditures, and practices in vocational-technical education at the secondary, postsecondary, adult education, and manpower training program levels; practices which contribute to the present inequalities are identified. Sexism in society and education is examined through a consideration of the historical differences in sex roles; the prevailing attitudes about women communicated through child rearing practices, television, textbooks, religious practices, and stereotyped roles; discrimination in education, including staff attitudes, segregated classes, athletics, and curriculum; the treatment afforded the pregnant teenager; and the provision of child care for students. The paucity of women in power positions in educational institutions, the biased nature of vocational counseling in public schools, and the distribution of women in higher education as students, faculty, and administrators are discussed. A review of federal laws and Executive orders shows that, legally, female students and employees are protected from the kinds of discrimination described in the report.

The author concludes, from a review and analysis of available data, that schools at all levels are operating separate vocational education programs for women. Limiting girls to traditional, female-intensive offerings perpetuates and contributes to restricted job opportunities and lower earnings for women. Although 55.5% of total vocational education enrollments and 63% of all secondary vocational enrollments are comprised of women, they are concentrated in non-wage earning home economics and in health and office occupations. Vocational schools are primarily preparing young women for the traditional role of homemaker rather than wage earner with a wide variety of job options. (60 references)

82

Steiger, J.M., and Cooper, S. Vocational Preparation of Women. Washington: U.S. Department of Health, Education and Welfare, A report to the Secretary's Advisory Committee on the Rights and Responsibilities of Women, 1975, 72pp.

Vocational Education. Socialization.

This report presents the historical development of women's role in education and the labor force, the current status of vocational education for women, and the underlying problems which maintain this situation. The authors found vocational schools have been and, in most cases, continue to be among the major social forces perpetuating the stereotyped images of women, their vocational opportunities, aptitudes, and interests. Examining rates of participation in vocational education, women are found in the less prestigious, poorly paid "feminine" fields; homemaking, office skills, and home economics account for 84% of all women taking vocational courses. Furthermore, in office occupations and health fields, women predominate in relatively low-paying specialties. The authors attribute much of this situation to the effects of socialization: societal expectations; values transmitted through the schools by textbooks, teacher and counselor attitudes, and tests used to measure aptitudes and interests; family expectations; and the influence on women of society's stereotype of them. The authors conclude that most vocational training received by women is rooted in traditional concepts of women's role and is inappropriate to present day needs. Their findings led them to recommend that two avenues to encourage change be investigated: 1) amending federal vocational education legislation, and 2) changing Department of Health, Education, and Welfare policies. (38 references)

83

Stein, A.H.,and Bailey, M.M. The socialization of achievement orientation in females. Psychological Bulletin, 1973, 80 (5), 345-366.

Achievement Motivation. Methodological Issues.

This article reviews the literature on achievement motivation and achievement-related behavior in an attempt to describe the patterns of achievement-related behavior that characterize females and to explore some of the variables that influence these behavior patterns. The effect of sex role expectations on achievement striving in females and the ways in which conflict between achievement striving and the traditional feminine role can be reduced are examined. The hypothesis that female achievement behavior is instigated by affiliation motivation or need for social approval rather than by achievement motivation is considered and rejected. Variables postulated as determinants of achievement behavior (expectancy of success, level of aspiration, anxiety about failure, belief in personal responsibility, and achievement behavior in response to failure) are presented.

Developmental changes in achievement behavior are considered, with an emphasis on adolescence and the college years as a time of social pressure. Socialization by parents is examined and the authors conclude that child rearing patterns which lead to feminine sex-typing are often antagonistic to those that lead to achievement-oriented behavior.

The need for research on achievement-related behavior in the various social classes and ethnic groups other than the white middle class is stressed as is the importance of defining achievement motivation in a way that is appropriate to females. Longitudinal, developmental studies are needed as are investigations into the effect of fathers, socializing agents other than parents, and sex-role-related characteristics on achievement effort. (94 references)

Tanney, M. F. Face validity of interest measures: Sex-role stereotyping. In E.E. Diamond (Ed.) Issues of Sex Bias and Sex Fairness in Career Interest Measurement. Washington, D.C.: Department of Health, Education and Welfare, 1975. Pp. 89-99.

Career Interest Inventories. SCII. KOIS. SDS. Gender Dominance.

This paper explores the presence and potential impact of gender-linked terms (he, she, etc.) and gender-linked activities in career interest inventories on the responses of males and females. No empirical data on this issue appears in the occupational interest inventory literature. Investigations in other disciplines (sociology, applied sociolinguistics, social and clinical psychology) suggest this language variable may have an impact on the responses people make. Three frequently used interest inventories -- the Strong-Campbell Interest Inventory (SCII), the Kuder Occupational Interest Survey, Form DD (KOIS), and Holland's Self-Directed Search (SDS) are examined for gender dominance. Titles of activities and overall construction including administrators guide, test takers print-out, test takers directions, and other components are critically examined. These inventories were also evaluated according to American Psychological Association and National Vocational Guidance Association test standards. While these test standards also showed instances of gender dominance, they do provide guidelines for identifying areas of potential sex bias. The author suggests that a systematic examination of the impact of gender-dominant words and activities needs to be undertaken. (34 references)

Theodore, A. The Professional Women. Cambridge: Schenkman, 1971, 769 pp.

Professional Women. Sex-Roles. Women's Career Patterns. Sex Discrimination.

This collection of readings brings together some of the recent research about the professional woman in America today in order to explore the various dimensions of this role within a sociological framework. Past and present trends concerning professional women are summarized. Changes in the sexual structure of professions and differences in professional roles according to sex status are examined. The importance of the culture and the various institutions which define professional roles for women and either motivate or inhibit them in choosing careers, training for them, and practicing them is one of the volume's focal points. The unique career patterns of women, especially married women, are discussed. The marginal position of the professional woman, particularly with reference to discrimination, is explored. Finally, several aspects of female professionalism according to the structure of the professions and social changes are considered.

The author concludes that both sex roles and major social institutions must be re-structured in the direction of a more equitable distribution of energy, talent, and leisure if any efforts to increase and facilitate female participation in all occupations on an equal basis with males are to do more than treat the symptons of the problem. Women will need to contribute substantially to sex role redefinitions and become important catalysts for change. In the future the educational system may be forced to play a more crucial role in the socialization process of women, to recruit professional women from a wider range of social strata, and to pay far greater attention to motivational approaches at every educational level. (53 chapters, 0-41 references per chapter)

86

Tidball, M. E. Perspective on academic women and affirmative action. Educational Record, 54(2):130-135, 1973.

Faculty and Administrator attitudes. Socialization. Women's Colleges. Faculty Role Models. Career-Successful Women.

This article reports a study of career-successful women which considers undergraduate origins in order to learn more about what consitiutes a supportive environment at this crucial time. The subjects were selected at random, 500 from each of three editions of Who's Who of American Women; about 1,100 of the 1,500 had graduated from college. Graduates of coeducational and women's colleges were compared on a decade basis, and the number of achievers then related to the number of students enrolled or graduating during the same decade. The greater achiever output found from the women's colleges compared with coeducational colleges is highly significant. The overall comparison for the five decades indicated approximately a two-fold difference in achiever output for the two types of colleges.

The author contends that a major loss of talent occurs because expectations for a young woman's competence have been confined to actualization through biological performance. An undergraduate environment where male students are present and there are few adult women models for achievement reinforces these expectations. The author hypothesized that the number of women faculty relates to achiever output and tested this hypothesis by calculating the number of achievers/women faculty for the two types of colleges. The number of women faculty and the number of women achievers were highly and positively correlated for all types of institutions. These data indicate that the development of young women of talent into career-successful adults is directly proportional to the number of role models to whom they have access. A correlation coefficient was calculated for the relationship between achievers and men faculty; no statistically significant correlation between the two was found. Furthermore, the number of women faculty in all undergraduate educational institutions has been declining for the past 40 years, while the enrollment of women students has accelerated markedly during the last decade, especially in coeducational institutions.

As the percentage of men students increases, the output of women achievers decreases proportionately. Men students and women faculty are the primary determinants of the number of women achievers. The number of women academic professionals must be increased and their status improved. Women's colleges should be supported. (no references)

87

Tittle, C.K., McCarthy, K. and Steckler, J.F. Women and Educational Testing. Princeton, N.J.: Educational Testing Service, 1974, 83 pages plus appendices.

Sex-Role Stereotypes. Discrimination. Achievement Tests. College Admissions Tests. Technical Materials. Measurement Texts. Vocational Interest Inventories.

This report selectively reviews the area of educational measurement and how it deals with women. The primary considerations involved are the reinforcement of sex-role stereotypes and restriction of individual choice. The results of an analysis of some achievement tests for the presence of sex-role stereotypes and language usage which displays content bias are reported. Content bias in user materials and subtest samples of college admissions tests are also discussed. Educational measurement texts and technical literature including Thorndike's Educational Measurement (1971) are reviewed for concepts in test development dealing with the issues of discrimination against women. Test bias in college prediction procedures are also examined. The use of two major vocational interest inventories in counseling women is examined and current research in this area reviewed.

The general sex bias in school materials is reflected in educational achievement tests. Language usage analysis indicates that references to males and their world are more frequent as opposed to a more balanced content equally appropriate for the two sexes. Similar results are found in analyzing users materials, admissions subtests and vocational inventories. The predictive validity of admission tests for college performance for various subgroups is strongly questioned and alternative techniques need to be explored. (The report is appended by a 90-item annotated bibliography.)

88

Vetter, L. Sex Stereotyping in Illustrations in Career Materials. Paper presented at the meeting of the American Psychological Association, Chicago, September 1975, 9 pp.

or

Vetter, L., Stockburger, D.W. and Brose, C. Career Guidance Materials: Implications for Women's Career Development. Columbus, Ohio: Center for Vocational Education, Ohio State University, 1974. 82 pp. (More detailed description)

Career Information. Sex Stereotyping. Racial Stereotyping.

This survey involves the analysis of 167 materials listed in the Vocational Guidance Quarterly (VGQ) "Current Career Literature" bibliographies published in 1970 through 1973, and 168 materials listed in two bibliographies prepared by the VT-ERIC Clearinghouse. The materials were analyzed for the content of their illustrations, on the basis of number of men and women; environmental setting (indoor-outdoor); observable interaction between people illustrated; minority groups; minority group by sex; occupations by sex; and occupations by minority group. The instrument used to assess the illustrations was developed for this study. The United States Bureau of the Census' occupational classifications were used to avoid over-representation of professional occupations, and to give a basis for comparison with actual occupational participation in the labor force.

The two sources of illustrations were analyzed separately. While some differences exist the results of the two illustration analyses are similar. Sixty-one percent of the pictures show men only, 21 percent show women only and 18 percent show both. Seventy-five percent of the illustrations showing only one sex are of men only. In both sets of materials the percentage of men shown outdoors is greater than both sexes pictured together, and women only. The ERIC sample has more illustrations of blacks than the VGQ, but black women are shown in both with greater relative frequency than black men. Professional occupations are over-represented to a greater extent for women than for men.

The authors conclude that the current status of women in the labor force is not adequately portrayed in career materials. Illustrations in career materials are not conveying accurate information to young people about their career alternatives. (12 references)

Walster, E., Cleary, T. A., and Clifford, M.M. The effect of race and sex on college admission. Sociology of Education, 1970, 44 (Spring), 237-244.

Race Discrimination. Sex Discrimination. Discrimination in Admissions.

This study tests the hypothesis that both race and sex affect a candidate's likelihood of being admitted to college. It was predicted that a black candidate of either sex would be preferred to a comparable white candidate. It was also predicted that, regardless of race, preference would be given to male candidates. Additionally, the relationship between institutions (categorized on six dimensions) and patterns of admission were explored.

For three different student ability levels, applications for undergraduate admissions identical in all respects, except for race (black or white) and sex were prepared. Each of 240 randomly selected colleges and universities was sent a single application with randomly assigned race, sex, and ability level. Acceptance or rejection of the candidate by the institution, scored on a five point scale, constituted the main dependent variable.

Although the data did not reach the .05 level of significance, white applicants and males were more frequently accepted. A statistically significant sex by ability interaction was found: males were markedly preferred over females at the low ability level, but this difference disappeared at the higher ability levels. The six dependent institutional variables were found not to alter the pattern of results.

The authors conclude that since, in the actual high school populations, there are more students of both sexes at the lowest of the ability levels used in the study than at the higher levels. overall women are discriminated against in college admission. (4 references)

90

Watley, D.J. Bright black youth: Their educational plans and career aspirations. National Merit Scholarship Corporation Research Report, 1971, 7 (8), 20 pp.

Educational Aspirations. Career Aspirations. Sex Difference. Racial Differences. Socioeconomic Status (SES). Highly Able Students.

This study reports the career and educational major plans and degree aspirations of ourstanding black high school students who had National Merit Scholarship Qualifying Test (NMSQT) selection scores in the top quartile of their own distribution or those who obtained B+ to A averages in high school. The stability of these plans from 11th grade to two and one-half years later is also investigated. While the most frequent career choices of blacks and non-blacks of both sexes are similar, a great deal of change takes place in the career plans of men and women of both races. Most notable are the increases in social science, education and business. Also the small percentage of blacks of either sex who aspired to professions in science, medicine or engineering is noted. Black males, in general, seek a higher level degree than did the nonblacks. Blacks from high income families more frequently plan for a doctorate than did blacks whose parents earn less. However, doctoral plans of black women who scored high on the NMSQT are not related to parent's income. Black women from families with high incomes appear more likely to plan for a doctorate if they had good grades in high school, but black women from low income families are more likely to plan for a doctorate if they have a high test score. Parental income level does seem to be related to educational degree aspirations and to career choice for these students. The high selectivity of this sample should be kept in mind when considering the applicability of these findings. (11 references)

Werts, C.E. A comparison of male vs. female college attendance probabilities. Sociology of Education, 1968, 41 (1), 103-110.

Predictors of College Attendance. Socioeconomic Status (SES). Academic Ability. Sex Differences.

This paper examines how much the probability of college attendance is affected by sex at different SES levels. The subjects were 127,125 freshmen (76,015 males and 51,110 females) entering 246 heterogeneous, four-year colleges and universitites in the fall of 1961. The survey instrument was a brief information form which asked their sex, high school average grade, father's occupation and education. Male-female ratios were computed for various fathers' occupations, levels of fathers' education, and academic achievement.

The author found that among low achievers, boys were much more likely than girls to enter college, while among high achievers, boys and girls were equally likely to enter college. Among low-SES students, boys were much more likely than girls to attend college. Boys and girls whose fathers were closely associated with academia had similar college attendance rates. (13 references)

92

Westervelt, E.M. Barriers to Women's Participation in Postsecondary Education. Washington, D.C.: U.S. Government Printing Office, 1975, 74 pp.

Institutional Barriers. Social Constraints. Psychological Barriers.

This report reviews research and commentary concerning variables that raise barriers to women's postsecondary education. These variables are classified into three types: 1) policies and practices within educational institutions that actively discriminate against women or fail to encourage and support their entrance and/or continuance; 2) social constraints in the life situations of many women which mitigate against their participation in educational programs; and 3) psychological and social factors prevalent in our society that result, for some women, in negative attitudes and expectations about higher education. The primary focus is on identifying barriers that stem from institutional and social practices, especially as women perceive them.

Five sets of institutional barriers are identified and discussed: 1) admissions practices, 2) financial aid practices, 3) institutional regulations, 4) deficiencies in curriculum planning and student services, and 5) faculty and staff attitudes. The interactive and interdependent social constraints imposed upon the pursuit of education by women are examined separately as functions of: 1) social class and ethnic or racial group membership; 2) family circumstances, including number and ages of dependents, roles of family members, financial resources, and place of residence; and 3) community attitudes. Psychological factors which influence women's educational patterns are examined through a consideration of: 1) current status of theories regarding the psychology of women, 2) sex differences in intellectual functioning, 3) attitudes of women toward self and self in relation to others, 4) motivation for achievement, and 5) psychological correlates of socialization practices.

The author finds there is some justification in concluding that there are barriers to women's participation in postsecondary education resulting from all three types of variables. Institutional practices that act as barriers are the most accessible to modification and changes in institutional policies and practices should in time reduce both the social and psychological barriers. (275 references)

93

Willingham, W. W. The Importance of relevance in expanding post-secondary education. Palo Alto, California: Access Research Office, College Entrance Examination Board, 1969, 55 pp.

Equal Post-Secondary Educational Opportunity. Access.

The main purpose of this report is to suggest various aspects of relevance which need to be taken into account in considering specific proposals for expanding educational opportunity beyond high school. The relevance of post-secondary education is classified into four categories: personal relevance, social relevance, educational relevance, and economic relevance. Within these categories, issues which are likely to restrict relevant educational opportunity in undesirable ways are identified. Personal relevance, the extent to which education provides equal opportunity regardless of background, talents, or social condition, for individuals to define their roles and responsibilities in society, faces four potential barriers: financial restraints, academic standards, accessibility of facilities, and social differences in access. Social relevance refers to the capacity of post-secondary education to reorganize roles and responsibilities and to marshal intellectual and moral resources in response to immediate social problems. Two major current problems in this area are the lack of social commitment on the part of the institution and the need for flexibility to serve new student populations. Educational relevance involves helping students to learn modes of action necessary to fulfill adult responsibilities. Two important issues related to providing educational relevance are instructional quality--the need to broaden instruction--and the need to give closer attention to the development of the student. Economic relevance means development of modes of individual action which are useful to society at large; in particular, it refers to the fit between education and the world of work. Two main aspects of this issue are the need to strengthen the relevance of occupational training and to develop general educational plans on the basis of manpower requirements. Essential centralized functions concerned with evaluating, planning, and stimulating equal and relevant opportunity must be performed at the insitutional, state, and national levels if equal opportunity for relevent post-secondary education is to become a reality. (132 references)

Willingham, W.W. Free-access colleges: Where they are and whom they serve.* College Board Review, 1970, 76, 6-14.

Free-Access Colleges. Admissions. Tuition. Proximity.

This report provides information on the extent to which institutions of higher education are accessible and to what populations. It is based on a national demographic analysis of those persons who live within commuting distance of an inexpensive and nonselective higher education institution. Accessible higher education is defined as having at least three characteristics: 1) relative inexpensiveness, 2) admissions and appropriate education for the majority of high school graduates, and 3) physical proximity. For the study, each college in the country was rated on a five-point scale based jointly upon tuition and selectivity. The two lowest levels were designated "free access" colleges which means they charged no more than $400 in annual tuition and at least one-third of their freshman class ranked in the bottom half at high school graduation. Of some 2,600 colleges, 789 were free-access as of fall 1968. Of those schools that were not free-access, 500 had special purposes or were heavily religious and 1,300 were inaccessible in roughly equal measure due to cost or selectivity, but most often both. Free-access institutions are almost exclusively public and 75 percent are two-year colleges.

Two-fifths of the population lives within a 45 minute commuting range of free access education. Twenty-four percent of the population in rural areas, 63 percent in small metropolitan areas, and 38 percent in major cities have accessible higher education. Nationally, a slightly larger proportion of blacks than whites live within commuting distance of a free-access college. Regionally, 51 percent of the population in the West, 50 percent in the South, 38 percent in the Northeast, and 33 percent in the Midwest live within commuting distance.

Three hundred seventy-five additional colleges in optimal locations would put two-thirds of the population of most states near an accessible institution. The need, not only for more institutions, but to develop existing colleges is stressed. The author feels the root problem to access to higher education in the 1970s is how to expand equal and relevant opportunity as rapidly as possible while avoiding the pitfalls of stifling individual choice and crippling higher institutions. (12 references)

*This data is reported in greater detail in Free-access Higher Education New York: College Entrance Examination Board, 1970, 240 pp., (124 references)